TEXTILE TECHNOLOGY DIGEST

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ABSTRACTS

FIBERS A

LOAD-DEFLECTION ANALYSIS OF FIBERS WITH PLANE CRIMP. R. Chicurel and E. Suppiger (Textile Research Inst.). Textile Research J. 30: 568-575 (Aug. 1960). (3421)

An analysis is presented for the change in shape, due to bending and stretching, of a coplanar crimped fiber subjected to static loading. For a fiber of given original configuration and specific loading, one may obtain the deformed configuration from the solution of two nonlinear differential equations. The load-deflection relations are calculated for a fiber with semicircular crimp and for three fibers with sine-wave crimps of different amplitude-wave length ratios. Reported also is an experimental verification of the results for two of the sine-wave crimps, using thin wire test specimens. Diagr, graphs, 8 refs.

SOME STRUCTURAL AND TECHNOLOGICAL CHARACTERISTICS OF FIBERS, FILAMENTS, AND YARNS. J. Juilfs. Melliand Textilber. 41, No. 5: 521-525 (1960). In German. Through BCIRA 40: 2353 (1960). (3422)

The relationship between textile practice and research is illustrated by the results of recent investigations into the effects of even very small elongation and tensile stresses on the technological properties of fibrous materials. These effects are of particular importance for subsequent finishing processes.

STUDIES ON THE VISCOELASTIC BEHAVIOR OF HIGH POLYMER SOLIDS. PART 2. STRESS RELAXATION OF FIBERS. M. Ohira, F. Kitajima, and H. Iino. Bull. Textile Research Inst. (Japan) No. 52: 29-37 (1960). In Japanese (English summary). Through BCIRA 40: 2343 (1960). (3423)

The relations between relaxation rate (f/f_0) and time (t) are hyperbolic at the first stage and logarithmic plots give straight lines with slope K, the internal resistance coefficient, characterizing the behavior of the material. The relations between K and mechanical properties have been studied for cotton, wool, rayon, and synthetic fibers.

Natural fibers A1

X-RAY STUDY OF THE SORPTION OF WATER BY THE SILK FIBROIN OF BOMBYX MORI. J. O. Warwicker (Shirley Inst.). J. Textile Inst. 51: T289-T292 (July 1960). (3424)

No changes have been found on the x-ray diagrams of wet and dry fibroin from Bombyx mori, and it is therefore concluded that water does not penetrate the crystalline regions of silk fibroin. Tables, 9 refs.

FIBER STRUCTURE: COTTON. Textile Mfr. 86: 283-284, 287 (July 1960). (3425)

The structure of the cotton fiber as seen under the electron microscope is explained, and the harmful effects of scouring and bleaching on the primary wall of the fiber discussed. Photomicrographs.

COTTON FIBER WEIGHT DISTRIBUTION. J. Shah (Arvind Mills Ltd). (Letter to the editor). Textile Research J. 30: 618 (Aug. 1960). (3426)

Data are cited to indicate that shorter fibers of a cotton sample are coarser than the longer fibers. (See also following abstract.) Graph, 3 refs.

LINEAR DENSITIES OF FIBERS IN SELECTED LENGTH GROUPS OF 42 DOMESTIC AND FOREIGN COTTONS. J. E. Sands, G. L. Louis, and J. D. Tallant (So. Utilization Research & Develop. Div.). (Letter to the editor). Textile Research J. 30: 619-620 (Aug. 1960). (3427)

The authors present data which indicate that shorter length groups have lower linear densities than intermediate groups. (See also preceding abstract.) Table, 3 refs.

LOG-NORMAL DISTRIBUTION OF THE DIAMETER OF WOOL FIBERS IN TOP SLIVERS AS STUDIED BY R. HENON AND J. OTT. F. Monfort (Peltzer et Fils). Textile Research J. 30: 556-567 (Aug. 1960). (3428)

The object of this article is to explain some little known work which has been done in France by Professor R. Henon and Mr. J. Ott on the log-normal distribution of the diameter of wool fibers in top sliver. A critical examination is made of the American Society for Testing Materials and the Agricultural Marketing Service classifications. A nomogram for the classification of wool tops is presented. Graphs, tables, 9 refs.

SIZE OF CORTICAL CELLS IN WOOL FIBERS. B. F. Short and L. W. Lockart (Trangie Agri. Experiment Station). (Letter to the editor). J. Textile Inst. 51: T295-T297 (July 1960). (3429)

The lengths of cortical cells freed from well-crimped Medium Merino wool fibers by tryptic digestion do not show a difference between paracortical (hard) cells and the overall mean of paracortical plus orthocortical cells from the same fibers. The mean length of cortical cells from South-down wool fibers is significantly less than that of cortical cells from cross-bred Medium Merino, and Superfine Merino wool fibers. Tables, 5 refs.

COTTON GINNING IN THE SUDAN. L. H. C. Tippett (Brit. Cotton Ind. Research Assoc.). Textile Weekly 60 (2): 183-184, 194 (July 22, 1960). (3430)

EFFECTS OF GAMMA, HIGH-ENERGY ELECTRON, AND THERMAL NEUTRON RADIATIONS ON THE FIBRILLAR STRUCTURE OF COTTON FIBERS. B. R. Porter, V. W. Tripp, I. V. deGruy, and M. L. Rollins (So. Reg. Research Lab.). Textile Research J. 30: 510-520 (July 1960). (3431)

The studies reported in this paper were made to examine the possibilities of analyzing microscopically the changes in fibrillar organization of the cotton fiber after high-energy irradiation. The optical microscope was employed to study, by means of the usual staining and swelling techniques, the effect of each type of irradiation on whole fibers. Electron microscopy enabled observations of changes in microfibrillar structure. Untreated cottons and cottons purified by extraction were observed after irradiation by gamma rays, 2-Mev electrons, and thermal neutrons. Additional observations were made on partially acetylated cotton fabrics and fabrics which had been treated with dichloropropanol, dimethylol cyclic ethyleneurea, or acrylonitrile following doses of 5×10^6 and 10^7 r. of gamma radiation. Photomicrographs, 25 refs.

BILATERAL STRUCTURE OF CRIMPED AND STEELY WOOLS AND THE ORIGIN OF FIBER CRIMP. D. F. Louw (S. African Wool Textile Research Inst.). Textile Research J. 30: 606-612 (Aug. 1960). (3432)

Observations on the behavior of root and tip sections of normal and steely wools towards treatment with 0.1 N NaOH at 50° C lead to a concept that the formation of crimp in wool is dependent upon differences in the rate rather than in the final extent of keratinization in the two cortex segments. The lack of well-defined crimp in steely fibers, which still show very definite segmentation into ortho- and paracortex, is explained on the basis of the slower keratinization of fibers deficient in trace elements as compared to normal. Photomicrographs, 17 refs.

SOME OBSERVATIONS ON KINETIC FRICTION OF JUTE. A. C. Chakravarty (Indian Central Jute Comm.). Textile Research J. 30: 592-597 (Aug. 1960). (3433)

A horizontally rotating flat surface and a pair of fiber pads, suspended from a torsional system, sliding over it were used to measure the coefficient of kinetic friction, μ_k, of jute. μ_k of jute sliding over glass ranged between 0.20 and 0.35. It was dependent upon (a) normal load, (b) speed of sliding, (c) moisture content, and (d) physical and chemical treatment of the fiber. Values obtained with porcelain, stainless steel, and wood surfaces were nearly equal to that obtained with glass. Interfiber friction using a fiber felt as the sliding surface was found to be considerably higher than these values. Diagr, graphs, tables, 19 refs.

SOME PHYSICAL OBSERVATIONS ON ROSELLE. S. K. Bose (Indian Central Jute Comm.). (Letter to the editor). Textile Research J. 30: 545-546 (July 1960). (3434)

In this article the author has studied, in the form of single filaments, the gravimetric fineness and breaking load at different test lengths, and consequently the substance strength of roselle fiber, in order to give comparative data with that of ramie, jute, and allied fibers. Graph, table, 4 refs.

Manmade fibers A2

ACETATE FILAMENT SPINNING MACHINE. R. Beeck (Filamentos Sinteticos SA). Modern Textiles Mag. 41: 22-28, 36 (Aug. 1960). (3435)

The technical features and operation of the acetate filament spinning unit developed by Filamentos Sinteticos SA are described. Flow diagrams and diagrams of the machine mechanisms are included. Photos, diagrs, 10 refs.

MELT SPINNABLE FLUORINE POLYMERS. E. I. du Pont de Nemours & Co. Man-Made Textiles 37: 53-54 (July 1960). (3436)

The synthesis of alkyl perfluorovinyl ethers which, as contrasted with Teflon, make possible the fabrication of monofilament yarns by conventional techniques is described.

TECHNICAL AND PRODUCTION DATA OF FORTY-ONE PRINCIPAL MANMADE FIBERS AND THIRTY-SIX METALLIC, STRETCH, AND BULK YARNS. Am. Textile Reptr. 74: 57-87 (July 21, 1960). (3437)

This 1960 revision is presented in three sections: (1) technical and production data on principal manmade fibers; (2) facts on leading metallic yarns for use by weavers and designers; and (3) facts about stretch and bulk yarns. Names and addresses of manufacturers and licensees are given. Reprints are available from America's Textile Reporter, 286 Congress Street, Boston 10, Mass. at 50¢ each.

PROPERTIES AND USES OF THE MANMADE FIBERS. Textile Inds. 124: 117-124 (Aug. 1960). (3438)

The chart also includes trademarks and suppliers of the principal manmade fibers. Free single reprints are available from Textile Industries, 806 Peachtree St., N. E., Atlanta 8, Georgia.

TEXTILE WORLD'S MANMADE FIBER TABLE: 1960 SUPPLEMENT. Textile World 110: 37-48 (Aug. 1960). (3439)

Information on fiber properties and production for: Avril, Avlin, Corval, Topel, Zantrel, Arnel 60, Fortrel, Vycron, Rhovyl, Lycra, Vyrene, and Merinova. Reprints are available at $1.00 each for 1-25 copies, 75¢ for 26-50 copies, 60¢ for more than 50 copies, from Textile World, 330 W. 42nd St., New York 36, N. Y.

TEXTILE FIBERS USED IN CURTAINS AND DRAPERIES. Consumer Bull. 43: 20-21 (Sept. 1960). (3440)

A table of characteristics of common curtain and drapery fibers is presented.

DACRON TYPE 64 POLYESTER COLOR-SEALED BLACK FIBER. E. I. du Pont de Nemours & Co., Textile Fibers Dept., Wilmington, Del. Aug. 1960. 2 p. Bull. NP-15. Free. (3441)

CRYSTALLINITY IN DRAWN FIBERS OF POLYETHYLENE TEREPHTHALATE. G. Farrow (Imp. Chem. Inds. Ltd). (Letter to the editor). J. Appl. Polymer Sci. 3: 365 (May/June 1960). (3442)

MECHANICAL ASPECTS OF FIBER SPINNING PROCESS IN MOLTEN POLYMERS. PART 1. STREAM DIAMETER AND VELOCITY DISTRIBUTION ALONG THE SPINNING WAY. A. Ziabicki and K. Kedzierska. Kolloid Z. 171: 51-61 (July 1960). (3443)

POLYPROPYLENE STORY. A. Fior (Montecatini Co.). Textile Inds. 124: 105-110 (Aug. 1960). (3444)

The intrinsic properties, processing behavior, fabric properties, and textile applications of Meraklon are described in detail. Graph, tables.

VYRENE: NEW SYNTHETIC ELASTIC YARN. L. M. Boulware (U. S. Rubber Co.). Modern Textiles Mag. 41: 46-48 (Aug. 1960). (3445)

Vyrene is a manufactured fiber composed of a linear polyurethane. Its superiority to rubber lies in its resistance to oxidation, chafing, and solvents. Its physical properties, processing characteristics, and serviceability are briefly described.

EFFECT OF HEATING OF NYLON 6 FILAMENT YARN IN HIGH VACUUM. I. Tsujimoto and N. Motoji. J. Textile Machy. Soc. Japan 13, No. 4: 247-254 (1960). In Japanese (English summary). Through BCIRA 40: 2493 (1960). (3446)

Cold-drawn yarns were heated with and without tension in high vacuum, and changes in length and tensile properties on heating or cooling were measured and compared with those on heating in air.

YARN PRODUCTION B

AUTOMATIC DOFFING. AUTO-DOFFING FOR THE SPINNING PROCESS. K. Fujii. AUTO-DOFFING OF LAPS. K. Fujii. AUTO-COP-DOFFER. T. Yosano. AUTO-DOFFING OF DRAWING CANS. T. Tooka. J. Textile Machy. Soc. Japan 13, No. 4: 265-274 (1960). In Japanese. Through BCIRA 40: 2429 (1960). (3447)

SLIVER CHEMICAL TREATMENT MACHINE. PART 1. MACHINE DESIGN AND FEATURES. A. Tateishi and B. Sato. Bull. Textile Research Inst. (Japan) No. 52: 39-41 (1960). In Japanese (English summary). Through BCIRA 40: 2219 (1960). (3448)

The machine is designed for continuous treatment (e.g. oiling and dressing) of manmade fiber tow but can be applied to the study of dyeing and resin finishing.

WOOL/DACRON PROCESSING IN AMERICA. Fibres and Plastics 21: 204 (July 1960). (3449)

Techniques for top preparation by carding or converting, gilling, scouring, blending, and drawing are summarized.

DETERGENTS AND SPINNING LUBRICANTS FOR WOOL. W. S. Buck (Ind. Dyestuffs Ltd). Dyer 124: 97 (July 15, 1960). (3450)

The use of Leonil RW nonionics, Levapon T alkyl sulfonates, and Levapon OL fatty alcohol sulfates in wool scouring and of Hostapol W or WN alkyl aryl polyglycol ethers and Lanigan Lubricants SG, KG, and KGW in spinning are reviewed.

PROCESSING BLENDS OF DACRON POLYESTER STAPLE AND RAYON. E. I. du Pont de Nemours & Co., Textile Fibers Dept., Wilmington, Del. Aug. 1960. 11 p. Bull. D-122 (replaces Bull. D-81). Free. (3451)

Opening, picking, fiber preparation B1

BETTER WAY TO FIGURE BLENDS. E. E. Berkley and S. C. Mayne, Jr. (Anderson, Clayton & Co.). Textile World 110: 49-51 (Aug. 1960). (3452)

Errors in the use of micronaire readings for blending may be eliminated by using the reciprocals of the readings. A table of reciprocals for use in the blending formula are given. Tables.

Carding and combing B2

MODEL D CARDING ENGINE. PART 4. K. Aoki, T. Asakawa, and N. Arita. J. Textile Machy. Soc. Japan 13, No. 4: 237-240 (1960). In Japanese (English summary). Through BCIRA 40: 2422 (1960). (3453)

Mill performance tests with low- and high-grade cotton and waste are reported. The yarn quality is equal to or better than average, and the high cleaning efficiency has advantages.

CAN-FEED CONDITIONS AT CARDS AND DRAWING FRAMES. L. A. B. Gangli and J. Tanko. Magyar Textiltech. 11, No. 6: 229-231 (1959). In Hungarian. Through BCIRA 40: 2424 (1960). (3454)

When converting to larger cans, the ratio $2r > R$ (where R is one-half the internal diameter of the cans and r the radius of the circle described by the oblique tube of the rotary plate) generally transforms into a $2r \leqslant R$ ratio. However, the sliver column is better protected against falling apart in the case of $2r > R$. The speed of rotation of the can must be reduced until the sliver cycloids shift by about the width of one sliver near a radius of approximately R/2. The speed of rotation should be set by means of change gears. Overfilling of cans should be avoided; the system of cut-off lengths is an excellent solution. Rounding-off and polishing the edge of the oblique tube of the rotary plate is also of practical value. Similarly, the bottom surface of the rotary plate should be polished smooth.

MAXIMUM UTILIZATION OF CAN CAPACITY. N. Florescu. Industria Textila 11, No. 4: 125-130 (1960). In Rumanian (English summary). Through BCIRA 40: 2425 (1960). (3455)

A kinematic study of the coiler mechanism for card and drawframe slivers is described in relation to defects and correct setting to obtain maximum filling capacity of cans. Examples from cotton mills are included.

CONTROLLING VARIATION IN WOOLEN ROVINGS. W. J. Crofts. Textile Mfr. 86: 269-270 (July 1960). (3456)

Since incorrect methods of loading the feeder hopper can cause roving irregularity, the author gives directions for correct comb setting, spike apron adjustment, pivoting of the scale pan, and setting of feeder comb controls.

USE OF METALLIC CARD CLOTHING IN COTTON PROCESSING. PART 5. COMPARATIVE SPINNING TESTS OF METALLIC CARD CLOTHING AND WIRE FILLET CARD CLOTHING (2). C. Nozaki and others. J. Textile Machy. Soc. Japan 13, No. 4: 229-236 (1960). In Japanese (English summary). Through BCIRA 40: 2423 (1960). (3457)

Tests were made with different combinations of wire tooth angles (yarns of 20s and 40s count). More slivers were delivered by the metallic cards, and the impurities in sliver and yarn were less, but the products were more irregular. A larger tooth angle on the cylinder and a smaller tooth angle on the doffer are recommended.

Drawing and roving B3

CONTROL OF SLIVER THICKNESS. PART 6. PRACTICAL APPLICATION OF AUTOMATIC DRAFT CONTROL BY NONLINEAR CONTROL SYSTEM. (1) APPLICATION TO DRAWING OF COTTON. A. Aoki. J. Soc. Textile Cellulose Inds. Japan 16, No. 4: 306-314 (1960). In Japanese (English summary). Through BCIRA 40: 2222 (1960). (3458)

Tests of the Ever Even system, giving control of long-term variation, are described. The short-cut process--draw-box with Ever Even (for 6 card sets), drawframe, super-high-draft spinning frame--was satisfactory in a mill test.

SOME SUPPLEMENTS TO THE PAPER "REPRESENTATION OF SLIVER IRREGULARITY" BY W. WEGENER AND E. G. HOTH. H. Giesekus. Melliand Textilber. 41, No. 4: 392-394 (1960). In German. Through BCIRA 40: 2223 (1960). (3459)

With reference to a previously published study of the author (abstr. 1099/60) and to the above paper (abstr. 1836/60), the author examines the accuracy of cross-correlation functions as well as that of statistical and spectrum functions to reach the conclusion that the individual factors affecting the irregularity (especially if they are aperiodical) are more easily interpreted by means of the autocorrelogram than by means of the spectrum function.

SUPERVISION AND AUTOMATIC CONTROL OF TEXTILE MACHINES. P. Laporte. Industrie Textile: 255-258 (Apr. 1960). In French. Through BCIRA 40: 2427 (1960). (3460)

The mechanisms of two devices are described: (1) for controlling sliver-thickness variations, and (2) for detecting thread breakages on warping machines.

CONTROL OF SHORT-WAVE LENGTH IRREGULARITY OF SLIVERS. S. Ishikawa and J. Shimizu (Tokyo Inst. Technol.). J. Textile Machy. Soc. Japan 6: 31-34 (June 1960). (3461)

This article inquires theoretically into the transfer function of the servo draft system and into the influence of fiber length on draft control. Diagrs, graphs, 5 refs.

KRUSE DRAWING FRAME. F. Walz. Textil-Praxis (English ed.) No. 2: 49-54 (June 1960). (3462)

The stages leading to the development of the Kruse single flyer drawing frame and the features, operation, and advantages of the frame are described. Diagrs, tables.

MEASURING AND CORRECTING SLIVER IRREGULARITY BY FRICTOR-USING EQUIPMENT. K. Mihira and H. Takeda (Yamagata Univ.). J. Textile Machy. Soc. Japan 6: 17-30 (June 1960). (3463)

The relation between the "frictor" designed by the authors and the properties of slivers is explained. The frictor is a trumpet-type tube which controls bundles of fibers. (1) The static resistance force of frictors of various shapes against slivers was measured with a magnetic strain meter by passing slivers through the frictors without fiber slippage. (2) A tentative plan of frictor-using sliver irregularity testers of two types is described. (3) An automatic frictor-using controller of sliver irregularity has been devised on trial and tried by the open-loop system on a card. The performance of this controller has been analyzed theoretically and experimentally, and the variations in its controlling effect are discussed. Photos, graphs, tables, 7 refs.

CONTINUOUS CONTROL OF SLIVER THICKNESS. F. Murakami, T. Shoman, and S. Kase (Toyo Spinning Co. Ltd). J. Textile Machy. Soc. Japan 6: 11-16 (June 1960). (3464)

This is an attempt to approximate the characteristics of two major types of servo-draft systems, the open-loop system and the closed-loop system, by comparatively simple mathematical models consisting of linear transfer functions. The effectiveness of servo-draft systems in terms of the frequency response of the mathematical models is investigated. Diagrs, graphs.

MEASUREMENT OF THE DIAMETER OF A PACKAGED ROVING BEING WOUND ON A RUNNING ROVING FRAME. T. Isshi (Shinshu Univ.). J. Textile Machy. Soc. Japan 6: 35-39 (June 1960). (3465)

The author describes an optical method (experimental) and an electrical method (practical) of measuring the diameter of a packaged roving while it is being wound on a bobbin on a running roving frame. Diagrs, graphs.

SINGLE-PASSAGE DRAWING OF VISCOSE RAYON STAPLE FIBER. V. Horak. Textil 15, No. 4: 128-130 (1960). In Czech. Through BCIRA 40: 2426 (1960). (3466)

DESIGN, CONSTRUCTION, AND PERFORMANCE OF THE SACO-LOWELL/USTER VERSA-MATIC ADC DRAWING FRAME. P. B. West (Saco-Lowell Research & Develop. Center). Textile Inds. 124: 138-143 (Aug. 1960). (3467)

The salient features of the servomechanism of the ADC (Automatic Draft Control) frame are: high-accuracy measurement of variations, precise control of time delay, very fast response, and continuous establishment of an average value about which corrections for uniformity are made. Results of actual mill tests using the ADC and Versa-Matic DC-7A are included. Photos, diagrs, graphs.

Spinning, winding, twisting B4

HOWA TYPE HIGH SPEED RING SPINNING FRAME. H. Yagami (Howa Machy. Ltd). J. Textile Machy. Soc. Japan 6: 55-56 (June 1960). (3468)

Features are described and illustrated. Spindles are capable of 15,000 rpm. Photos, diagrs.

MILL CONTROL OF SHORT FIBER PERCENTAGE FOR IMPROVED SPINNING PERFORMANCE. L. Dexter and R. Sweeney (Pepperell Mfg. Co.). Textile Inds. 124: 125-129 (Aug. 1960). (3469)

Results of the mill test described indicate that an increase in the percent of fibers shorter than 1/2 in. in a cotton mix will result in an increase in spinning ends-down and a decrease in yarn breaking strength. Other factors also resulting from increase in short fibers are higher waste percentage, more fly in the air, and a drop in weave-room efficiency. It is concluded that control of short fibers in cotton mixes can be used to advantage as a practical production tool. Graphs, tables, 2 refs.

EFFECT OF SHORT FIBERS IN COTTON ON SPINNING PERFORMANCE AND YARN PROPERTIES. J. D. Tallant (So. Reg. Research Lab.). Textile Inds. 124: 129-133 (Aug. 1960). (3470)

A series of spinning tests showed that the relationship between spinning efficiency and short-fiber content, for print cloth yarns (30/1 and 40/1), is complex and strongly influenced by spindle speed, yarn size, and yarn twist. Increases in short fiber content, in general, seriously decrease spinning efficiency. Further, it appears that when a cotton of a given level of short-fiber content exceeds an ends-down rate of about 20/1000 spindle hours, end breakage increases exponentially with increases in spindle speed. In addition, increases in short-fiber content adversely affect the uniformity, appearance, and strength of cotton yarns. Graphs, tables, 6 refs.

VIBRATIONS AND HORSEPOWER CONSUMPTION OF HIGH-SPEED SPINNING FRAMES. M. Nakamura (Osaka Kiko Co. Ltd). J. Textile Machy. Soc. Japan 6: 51-54 (June 1960). (3471)

The article discusses some experiments on the problems of increased vibrations and increased power consumption which would accompany speed-up of spinning frames. Graphs.

BALLOONING APPARATUS WITH LINEAR YARN MOVEMENT. D. Brunnschweiler, P. J. Cotterill, and N. Hodgkinson (Manchester Coll. Science & Technol.). (Letter to the editor). Textile Research J. 30: 616-617 (Aug. 1960). (3472)

The apparatus described overcomes the limitation of existing types of apparatus in that movement of the yarn in the direction of the balloon axis can occur. Diagrs, 2 refs.

EFFICIENCY LIMITS OF RINGS AND TRAVELERS. S. Fürst. Textil-Praxis (English ed.) No. 2: 56-64 (June 1960). (3473)

The paper deals with efficiency limits of dry spinning rings and travelers in cotton and staple fiber spinning. The effects of heat stress and diameter on the wear of travelers are important. Surface treatments for running in the travelers are specifically mentioned; they are effective but do not permanently reduce wear.

DEVICE FOR INSTALLING C-SHAPED RING TRAVELERS E. Menke. Textil-Praxis (English ed.) No. 2: 54-55 (June 1960). (3474)

Bräcker AG have developed this new device. The author describes the economical operation of the tool.

PROBLEMS IN THE DESIGNING OF ABBOTT LINE DRAFT RING SPINNING FRAME. T. Kawabata and K. Kamizeki (Ishikawa Seisakusho Ltd). J. Textile Machy. Soc. Japan 6: 45-50 (June 1960). (3475)

This article is a report of experiments on the ALD ring spinning frame which uses no aprons and controls drafting by means of a slide piece assembly. It discusses performance, construction, reducing wear and tear of parts, cleaning, durability, and spinning mock-twist and core yarns. Diagrs, graphs, tables.

PERIODICITY IN THE WINDINGS OF RING-FRAME DRAW-TWISTER BOBBINS. A. Näf and L. Hermanne (Fabelta SA). J. Textile Inst. 51: T265-T270 (July 1960). (3476)

When low-twist, continuous filament synthetic yarns are drawn on ring-frames, the conditions differ greatly from those in staple yarn spinning and periodicities may appear in the windings on the surface of the bobbins. In order to demonstrate the periodicities on the yarn packages, the drawn yarn was colored at times during about 100 yd as it issued from the delivery roll. Patterns appear in the windings on the surface of the bobbin because the yarn, instead of being wound accurately as helices or spirals, is subject to sinusoidal variations due to imperfections in the spinning machine. When the top surface of the ring is accurately in a plane perpendicular to the axis of the spindle, no pattern is developed. But as soon as the spindle is no longer exactly normal to the plane of the top of the ring, the projection of the windings becomes a sinusoidal curve and the locus of the colored yarn becomes the pattern on the surface of the windings on the bobbin. Photo, diagrs, graphs.

STUDIES ON RATIONALIZATION OF CLEANING METHODS IN SPINNING MILLS. PART 8. CHARACTERISTICS OF INCLINED BLOWER NOZZLE. Y. Niitsu, S. Fujimori, and Y. Hosokawa. J. Textile Machy. Soc. Japan 13, No. 5: 329-337 (1960). In Japanese (English summary). Through BCIRA 40: 2428 (1960). (3477)

The inclined blower nozzle is superior to the vertical blower nozzle when moved as the traveling fan. The characteristics of the rate of jet air flow are studied, and formulas are given for the velocity ratio, volume flow, and optimum height of nozzle.

METHODS OF DRAFTING IN STAPLE FIBER SPINNING. W. Nutter (T. M. M. (Research) Ltd). Textile Merc. 143: 86-88, 98 (July 15, 1960). (3478)

The characteristics of existing drafting systems for staple fibers and their evolution from the simple roller system of Louis Paul are described. Essentially the present systems consist of: (1) simple or complex roller assemblies usually associated with multiple sliver drafting, and (2) apron and roller combination or multiapron arrangements for drafting slivers or rovings into yarn in one or more stages. Diagrs, graph.

RATIONALIZATION BY DOUBLE-TWIST TWISTING. J. Schneider. Melliand 41, No. 3: 163-166 (1960). (3479)

A discussion of the applicability and advantages of the double-twist twisting system is followed by a detailed description of the double-twisting machine of the Berliner Textilmaschinengesellschaft, which can be used for the economic production of all yarns, and which represents the first step to a semi-automatic twisting machine for smooth yarns.

FRICTION BETWEEN SELF-LUBRICATING RINGS AND TRAVELERS AND THEIR WEAR. K. Kanai, H. Kanai, and Y. Kanbara (Kanai Juyo Kogyo Co. Ltd). J. Textile Machy. Soc. Japan 6: 40-44 (June 1960). (3480)

With the aid of a ring traveler friction tester, the authors investigated the degree of friction between self-lubricating rings and travelers and the amount of their wear. Lubricating oils of various viscosities were used. They found: (1) The degree of viscosity of lubricating oil has no bearing on the wear of rings, although their wear varies with the type of the ring. (2) The degree of viscosity of lubricating oil and the type of oiling mechanism used do have a bearing on the wear of travelers. (3) The degree of viscosity of lubricating oil has no bearing on the coefficient of ring-traveler friction, although the coefficient of friction varies with the type of the ring. Diagrs, graphs, tables.

Yarns B5

YARN TRANSPORT PROBLEMS IN THE TEXTILE INDUSTRY. A. Heitmann. Textil-Praxis (English ed.) No. 2: 81-87 (June 1960). (3481)

The requirements of containers for the internal transport of yarn packages are examined, and suggestions for increasing efficiency and reducing costs are given.

TWIST GEOMETRY AND TWIST LIMITS IN YARNS AND CORDS. P. S. Gracie. J. Textile Inst. 51: T271-T288 (July 1960). (3482)

In the first part of this paper, the geometry of twisted yarns is analyzed and, by the introduction of the term "basic" twist (defined as twist per unit of untwisted length), it is shown why there is a limit to twist and why snarling is inevitable above this limit, even when the yarn is held taut. In the second part, the geometry of primary cording, i. e. the twisting together of two or more twisted yarns, is investigated with the approximation of neglecting their curvature while taking proper account of their true length and true torsion. The resultant equations show that there is a cord twist at which the "de-twist" (more accurately, reduction of torsion) of the plies is a maximum; further increase of cord twist beyond this level increases ply torsion towards the pretwisted level. This explains the minimum found experimentally when outside filament-angle relative to the ply axis is plotted against cord twist. Finally, the existence of a limit to cord twist is demonstrated, above which snarling must occur. Diagrs, graphs, 9 refs.

STRENGTH AND ELONGATION OF A STAPLE YARN. PART 1. STAPLE YARN COMPOSED OF UNIFORM FIBERS AND TWISTED UNDER OPTIMUM CONDITIONS. H. Kuma. J. Textile Machy. Soc. Japan 13, No. 5: 305-314 (1960). In Japanese (English summary). Through BCIRA 40: 2491 (1960). (3483)

A mathematical relationship between twist angle at the yarn surface and the ratio of broken fibers when the yarn is broken is derived, and theoretical expressions are given for the elongation at break and the strength at break.

IMPACT OF TEXTURED YARNS. R. K. Stanley (Textured Yarn Co.). Textile Inds. 124: 111-113 (Aug. 1960). (3484)

The impact of the textured yarns on both the textile industry and the consumer is examined.

THE SHAPE AND PARALLELIZATION OF FIBERS IN SLIVERS AND THEIR DIRECTIONAL PROPERTIES. M. Tabata, K. Hayakawa, and T. Takizawa. J. Textile Machy. Soc. Japan 6: 5-10 (June 1960). (3485)

The authors have studied the shape and parallelization of fibers in slivers and rovings and drafting-induced changes in parallelization and shape. Short dyed yarns were used as tracers in the observation of the shape of fibers. The Orientation Index (O. I.) was measured by modifying Lindsley's method, and distinguishing between plus O. I. and minus O. I. The straight fibers in a sliver and the mean value of their O. I. increases by drafting, but there seems to be a sizeable difference in quantity between fibers with leading hooks and fibers with trailing hooks. There is also a difference in value between plus O. I. and minus O. I. These differences, however, decrease gradually in the subsequent processes. The results of the experiments suggest that plus O. I. and minus O. I. should be measured and discussed separately and that the direction in which slivers are fed has a considerable bearing on the quality of finished yarn. Graphs, tables, 9 refs.

CALCULATION OF THE IDEAL UNEVENNESS OF BLENDED STRANDS. G. M. Bornet (Ontario Research Found.). J. Textile Inst. 51: P326-P336 (July 1960). (3486)

A simple formula is proposed for the calculation of the Ideal Unevenness of a blended strand according to Martindale's "random strand" concept. Two methods of approach are followed, both of which are found to give the same numerical answer. The second method leads to the proposed formula, which is in a form suitable for the calculation of Ideal Unevenness and of the Index of Unevenness in mill practice.

HOT-STRETCHING NYLON CORD IN TRIAL QUANTITIES. W. S. Symes (Brit. Nylon Spinners Ltd). Nylon Outlook 3, No. 1: 4-9 (Spring 1960). (3487)

The Litzler Computreator described is a machine expressly designed for hot-stretching single cords in trial quantities with exact control of the three variables involved (time, tension, and temperature) over a wide range. Photos, diagrs, graphs.

DOLLARS AND CENTS OF TEXTURED YARNS. E. Stowell (Stowell & Co.). Textile Inds. 124: 93, 114-116 (Aug. 1960). (3488)

Data on spindleage, production, market conditions, machinery developments, costs, and selling prices are included. Table.

WEAVING WITH SAABA YARN. Leesona Corp. Am. Textile Reptr. 74: 25, 116 (July 21, 1960). (3489)

The weaving possibilities of Saaba yarns without the necessity of new techniques are summarized.

MIXED SPINNING OF NYLON AND ACETATE RAYON STAPLE FIBER. PART 2. RELATION OF MIXING-RATIO AND THE PROPERTIES OF MIXED SPUN YARN. B. Sato, J. Horii, T. Ishii. T. Tada, and Y. Suwabe. Bull. Textile Research Inst. (Japan) No. 52: 43-61 (1960). In Japanese (English summary). Through BCIRA 40: 2224 (1960). (3490)

Blended yarns of 11 kinds (1/36 and 2/36) were tested, and the relations between blend proportion and mechanical properties (strength, elongation, elasticity, etc.) are discussed.

FABRIC PRODUCTION C

Warping, slashing, yarn preparation C1

CAUSES OF THE FORMATION OF YARN WASTE. Z. Horvath. Magyar Textiltech. 11, No. 5: 205-209 (1959). In Hungarian. Through BCIRA 40: 2435 (1960). (3491)

Causes of waste forming on the warp beam creel during sizing were investigated in order to elaborate a system of braking that ensures identical elongation of the individual warp beams. One-third of the causes of unsized yarn waste formation were found to be due to warping (different lengths) and two-thirds to sizing (different elongations).

SLASHING CRESLAN. Textile Inds. 124: 99-100, 116 (Aug. 1960). (3492)

Size formulas and slashing conditions are recommended for optimum performance. Photos, table.

SLASHER DRIVES. J. G. Stephenson and J. C. Marous (Westinghouse Elec. Corp.). Textile World 110: 32-34 (Aug. 1960). (3493)

The use of packaged multimotor drives to modernize older slashers is discussed. Three different packaged drives are available: booster-generator addition, magnetic amplifier (to replace the rotating regulator) plus a booster generator, and complete new multimotor drive with either rotating-power supply or the new static-power supply. Photos, diagrs.

RELATION BETWEEN WARP BOBBIN SHAPE AND UNWINDING. PART 4. Y. Miura, K. Ozaki, and T. Ozawa. J. Textile Machy. Soc. Japan 13, No. 4: 241-246 (1960). In Japanese (English summary). Through BCIRA 40: 2434 (1960). (3494)

Ways of increasing the speed of unwinding are discussed, particularly by revolving the cop.

AUTOMATIC SPOOLING. Barber-Colman Co. Textile Weekly 60 (2): 133-134 (July 15, 1960). (3495)

Features and operation of the model F (for large cheeses) and the model FF (for large cones) are described. One development which distinguishes the spoolers from their predecessors is the use of two arms to support the cheese or cone between bearings instead of a single arm with a rotating spindle. Photos.

IS AUTOMATION OF WARP YARN WINDING REASONABLE? W. Beck. Melliand Textilber. 41, No. 4: 396-398 (1960). In German. Through BCIRA 40: 2254 (1960). (3496)

The paper published under the above title by J. Schneider (abstr. 462/60) is criticized, the writer pointing out in particular the fact that automation can no longer be held back and that automatic winders are being increasingly introduced, especially in other countries. To this criticism, the author of the above paper replies in the following article (p. 398-400), stating that his representations have been misinterpreted, and pointing out the principles on which to base the construction of an economically operating automatic winder, which is able to solve the problems arising in small plants and to satisfy the increasing quality requirements.

AUTOMATION OF WARP YARN WINDING BY AUTOMATIC CHEESE WINDERS. J. Schneider. Melliand Textilber. 41, No. 4: 401-404 (1960). In German. Through BCIRA 40: 2253 (1960). (3497)

The mechanism of a new type of automatic winder with 24 winding points and an automatic knotting unit (F. Müller Maschinenfabrik) is described to illustrate the constructional and technological problems involved in automation. The economic aspects of the automatic winder, as compared with high-speed cheese-winding machines, are discussed on the basis of calculations.

ELECTRICALLY CONTROLLED THREAD CUTTER FOR CONE WINDERS. H. Fries. Textil-Praxis (English ed.) No. 2: 65-67 (June 1960). (3498)

The thread cutter described (Keller Spezialtechnik GmbH) is designed to automatically obtain packages of a uniform, predetermined diameter. Its operation is described. Photos, diagr.

DETERMINATION OF THE TIME STANDARD FOR TWISTING-IN. H. Mild. Melliand Textilber. 41, No. 4: 394-396 (1960). In German. Through BCIRA 40: 2399 (1960). (3499)

It is shown how the time-standard for twisting-in or piecing can be calculated on Refa (time study) principles.

WARPING TRICOT BEAMS OF ZERO TWIST DU PONT ACELE ACETATE. E. I. du Pont de Nemours & Co., Textile Fibers Dept., Wilmington, Del. Aug. 1960. 11 p. Bull. A-43 (replaces Bull. A-24). Free. (3500)

WARPING BEAMS FOR COTTON YARNS AND FILAMENTARY AND STAPLE FIBER YARNS FROM CHEMICAL FIBERS. German Standards Comm. Melliand Textilber. 41, No. 4: 426-427 (1960). In German. Through BCIRA 40: 2255 (1960). (3501)

The draft specifications DIN 64510 and 64511 lay down the dimensions, material, and construction of warping beams for cotton and chemical fiber spun yarns, on the one hand, and for continuous filament yarns, on the other.

NOVEL LEASING DEVICE, TYPE ZUA, FOR SECTION WARPING MILLS. R. Stöck. Melliand 41, No. 3: 176-184 (1960). (3502)

Conventional leasing systems are mentioned, and the new ZUA-system and its advantages are described and compared with previous constructions.

Weaving C2

DESIGNING THE FASTER CARPET LOOM. F. R. Tipler. Textile Mfr. 86: 271 (July 1960). (3503)

Methods of attaining increased speeds in carpet looms are discussed.

LENO WEAVING. Grob & Co. Ltd. Textile Weekly 60 (2): 244-246, 260 (July 29, 1960). (3504)

The application of an equalizer bar, an equalizer frame, or a leno ground frame for equalization of warp tension in open and cross shed is discussed. Diagrs.

BEHAVIOR OF WARP YARNS DURING WEAVING. PART 3. EFFECTS OF REPEATED STRAINS ON SIZED SPUN YARNS. N. Akagawa and S. Kazama. Bull. Textile Research Inst. (Japan) No. 52: 63-69 (1960). In Japanese (English summary). Through BCIRA 40: 2263 (1960). (3505)

The relation between static load T and repeated extension ε during weaving is given by $T + E\varepsilon \leq T_y = E\varepsilon_y$, where E, T_y, and ε_y are constants relating to the yarn. The values of ε_y for spun yarns are 0.5-1.5% and smaller than for continuous-filament yarns.

WOVEN CARPET. PART 12. NEEDLE PILE CARPETS. H. Osswald. Melliand Textilber. 41, No. 4: 409-412 (1960). In German. Through BCIRA 40: 2265 (1960). (3506)

After a brief explanation of the 1-needle system, the multi-needle system, known as tufting, is described in detail, reference being made especially to the main operations involved (weaving, tufting, and back finishing). For Part 11 see abstr. 2383/60.

WOVEN CARPET. PART 13. PLAIN CARPETS. H. Osswald. Melliand Textilber. 41, No. 5: 549-552 (1960). In German. Through BCIRA 40: 2266 (1960). (3507)

The definition and history of plain carpets (without pile on the surface) are discussed, with special reference to the weaves and patterns possible and the yarns used for their manufacture.

CHANGE BOX PROBLEMS ON FOUR- AND SIX-BOBBIN JACQUARD RIBBON LOOMS. E. Peuster. Melliand Textilber. 41, No. 5: 543-549 (1960). In German. Through BCIRA 40: 2261 (1960). (3508)

Change motions for 4-, 5-, and 6-bobbin jacquard ribbon looms are described, with special reference to the improved mechanism of change boxes, the simplified form of indicating the change boxes in the design, and economy in the use of change boxes.

NEW GUSKEN VELVET LOOM. E. Stauder. Melliand Textilber. 41, No. 4: 405-409 (1960). In German. Through BCIRA 40: 2259 (1960). (3509)

Constructional details and mechanism of the velvet loom, type SHEA, are described. The loom reaches the speed of comparable modern ordinary looms.

TEXO FELT LOOM, MODEL HF. K. Bunse. Melliand 41, No. 3: 192-196 (1960). (3510)

The insertion of a retarding gear in the HF loom makes it possible to weave without interruption on looms up to 59 ft wide. By varying the displacement of the centers of two driving gears, the crankshaft can be suitably retarded when in back center so that the movement of the lay during the passage of the shuttle is reduced to a minimum. The entire gear is housed in a totally enclosed casing and, apart from an occasional change of oil, does not need any attention. The shafts and wheels all run in ball bearings. The loom is being built in sections to facilitate erection. Other features are noted. Photos, diagr.

LOOMFIXER AND HIS JOB. PART 20. W. Westbrook. Textile Bull. 86: 45-46 (Aug. 1960). (3511)

Pointers on setting and inspection of shuttle boxes. Diagrs.

STUDY ON JET LOOMS. PART 2. YARN PROPULSION INTO FREE ATMOSPHERE. M. Uno, T. Ishida, H. Aoyama, and K. Matsui. J. Textile Machy. Soc. Japan 13, No. 5: 315-322 (1960). In Japanese (English summary). Through BCIRA 40: 2437 (1960). (3512)

The conditions for propulsion of yarn by an air jet through a metallic nozzle at 22.5 m/sec were determined.

CAUSES OF MOTION MARKING. R. Foster (Wool Inds. Research Assoc.). J. Textile Inst. 51: P336-P345 (July 1960). (3513)

Motion marking is the result of a periodic variation in warp tension each time the ratchet shaft rotates. It cannot be eliminated by improving the beam-drive mechanism. The tension variation causing the fault can be avoided by reducing the friction at the bearings in the tensioning system and by improving these bearings so that their performance over long periods of weaving remains satisfactory. The simplest way of doing this appears to be to use oil-impregnated bushes at these bearing points. If plain bearings are in use, the notches furthest away from the bearings should be used whenever possible, and frequent inspection of the studs should be made for any signs of wear. Photo, diagr, graphs.

PRACTICAL HINTS FOR WEAVING GLASS YARN. C. Merlin. Industrie Textile: 285-291 (Apr. 1960). In French. Through BCIRA 40: 2438 (1960). (3514)

The historical development of glass fibers, the production of continuous filament yarn (Silion, in analogy to rayon) and staple fiber yarn (Verranne in analogy to Fibranne) and their general characteristics, composition, and behavior during processing are discussed, and treatments to which glass textiles can be subjected to impart to them the properties necessary for the respective end-products (ribbons, insulating fabrics, furnishing fabrics, leather imitations, surgical dressings, carpets, etc.) are described.

LENTZ LOOM HBS III. F. Jansen and R. Maier. Textil-Praxis (English ed.) No. 2: 71-75 (June 1960). (3515)

Constructional details and mechanism of this new type of loom without superstructure (for medium-heavy to very heavy fabrics from wool, spun rayon, etc.) are described. The loom, operating at 142-150 rev/min at a reed width of 215 cm (corresponding to a cloth width of 200 cm), can also be equipped with various additional units, e.g. jacquard machine, optical weft feelers, device permitting the use of two warp beams, etc.

WEAVING ACCESORIES FROM PLASTICS. H. Emmrich. Textil-Praxis (English ed.) No. 2: 75-81 (June 1960). (3516)

Experiences with Perlon picking straps, pickers, shaft rollers, and other loom components made of plastics are reported.

REEDMETER: A REED-MEASURING INSTRUMENT. S. Wakabayashi (Toyo Spinning Co. Ltd). J. Textile Machy. Soc. Japan 6: 57-59 (June 1960). (3517)

The Reedmeter is claimed to measure rapidly and accurately irregularity of reed counts and other reed defects. Its features and use are explained. Diagrs, graphs, table.

HIGHER NUMBER OF PICKS IN AUTOMATIC LOOMS BY USING DIFFERENTIAL SHUTTLE GUARD DEVICES. L. Huber. Melliand Textilber. 41, No. 5: 553-558 (1960). In German. Through BCIRA 40: 2260 (1960). (3518)

The fact that the movement of the shuttle is not constant as a result of its continuous weight decrease during weaving has a decisive effect on the maximum loom velocity. Differential shuttle guards, based on pneumatically-operating automatic control in dependence of the weaving speed, are claimed to be effective in obtaining higher picking velocities. Their mechanism is described.

BOBBIN-CHANGING AUTOMATIC LOOMS. Crompton & Knowles Corp. Textile Weekly 60 (2): 135-136, 139 (July 15, 1960). (3519)

The primary types of looms included in the C-7 4 x 1 box loom series are: the C-7 for fancy cotton dress goods, ginghams, and synthetic blends; the C-7 terry loom; the C-7S for fine filament fabrics; and the C-7A for lightweight suitings. Their features and advantages are described. Photos.

Knitting C3

FUNDAMENTALS OF WARP KNITTING. PART 1. A. Reisfeld. Knitted Outerwear Times 29: 3-11 (Aug. 8, 1960). (3520)

Definitions of warp and weft knitting, comparison between the warp and weft systems, and the advantages of each system are given. Diagrs, 11 refs.

FUNDAMENTALS OF WARP KNIT ENGINEERING. PART 2. A. Reisfeld. Knitted Outerwear Times 29: 9, 33-38 (Aug. 22, 1960). (3521)

The scope of warp knitting, classification of products, materials used, and continuous filament warp knitting are discussed.

A CIRCULAR MACHINE WITHOUT NEEDLES. J. Palomer Pons. Knitter 24: 39-40 (Aug. 1960). (3522)

This circular knitting machine for the production of links links fabrics has a normal cylinder but has special hooks instead of needles. It is being produced by Messrs. Lebocey, Troyes, France, under license from Messrs. Acerman in Mataro (Barcelona), Spain.

REMEDY FOR CUT HOLES, DROPPED STITCHES ON CIRCULAR HOSE MACHINES. F. Paul. Textile Inds. 124: 159, 161 (Aug. 1960). (3523)

The number of cut holes and dropped stitches in socks made on the SCP and SCOP (and other similar circular knitters) may be greatly reduced by reworking the surface areas of the latch openers, located on the carrier ring. Diagrs.

LACE ON MODERN RASCHEL MACHINES. PART 5. PATTERN DRUM MECHANISMS. R. Wheatley (Nottingham & District Tech. Coll.). Man-Made Textiles 37: 56-58 (July 1960). (3524)

The pattern drum mechanisms of the Hobley, Barfuss, Kidde, and Mayer machines are described. Photos, diagrs.

FANCY RIB STITCHES FOR BULKY SWEATERS. J. B. Lancashire. Knitted Outerwear Times 29: 3, 43 (July 11, 1960). (3525)

NYLON YARNS IN STOCKINGS. D. W. Smith. Nylon Outlook 3, No. 1: 30-36 (Spring 1960). (3526)

Developments in nylon yarns for hosiery and their impact on the stocking market are reviewed. Photos, photomicrographs.

CRAWFORD CMP-1 FANCY HALF-HOSE MACHINE. W. E. Shinn. Knitter 24: 31-34 (July 1960). (3527)

Half-hose with as many as 5 design colors can be produced.

Fabrics C4

NYLON AND LOW FLAMMABILITY STANDARDS FOR APPAREL FABRICS. B. Roberts (Brit. Nylon Spinners Ltd). Nylon Outlook 3, No. 1: 10-17 (Spring 1960). (3528)

The behavior of various nylon fabrics in Brit. Standards Inst. tests for low flammability is described, and criteria by which a very high standard of flammability is assured are suggested. Photos, tables, 2 refs.

CHARACTERISTICS AND CHANGES IN MECHANICAL PROPERTIES OF FABRICS OF CELLULOSIC BLENDS. H. A. Thomas (Courtaulds Ltd). Can. Textile J. 77: 47-52, 55-60 (July 22, 1960). (3529)

The compatibility of viscose fibers and cotton and the merits conferred by each of the fibers in blends are discussed. Results of field trials and laboratory evaluation of their use in household textiles, clothing, and medical and surgical dressings are included. Graphs, tables.

CLOTH TERMS AND PARTICULARS: MIXTURE FABRICS. W. Middlebrook. Textile Mfr. 86: 260-261 (July 1960). (3530)

Descriptions of a wide range of blend fabrics including wool/silk, viscose and acetate mixtures, cotton/wool, wool/linen, wool/jute, etc., with yarn counts, end and picks, and weaves.

ABRASION RESISTANCE OF DIFFERENTLY ORIENTED POLYCAPROLACTAM BRISTLES. G. W. Urbańczyk. Faserforsch. u. Textiltech. 11, No. 3: 129-135 (1960). In German. Through BCIRA 40: 2486 (1960). (3531)

The wear properties of bristles are evaluated on the basis of tests carried out on various abrasion testers and the relationship between abrasion and orientation is discussed.

FIBERS FOR BONDED FABRICS. L. Walter. Fibres and Plastics 21: 211-212 (July 1960). (3532)

Among the recent developments in materials and production techniques described are: Lantor nonwoven fabrics (Lantor Ltd); control of delamination by use of gelling agents in latex bonding agents (Rubber Tech. Developments Ltd); adaptation of manmade fibers for paper (Du Pont Co.); and Duramat glass fiber mats. 3 refs.

BONDED BATTING FOR BETTER HEAT CONTROL. Rohm & Haas Reptr. 18: 4-7 (July/Aug. 1960). (3533)

Feltex, made from bonded Dacron staple fiberfill batting, may be used as an interlining material for cold weather garments.

DIFFERENTIATION IN THE HEAT TRANSPORT CAPACITY OF TEXTILES. F. W. Behmann. Melliand Textilber. 41, No. 4: 468-473 (1960). In German. Through BCIRA 40: 2357 (1960). (3534)

The main laws governing the heat transfer in damp fabrics are discussed, and the constants characterizing the heat transport of comparable tricot fabrics from wool and polyamide fibers are determined. The numerical values indicate that, in the region of imperceptible skin-water loss, the diffusion resistance of the polyamide fabric is reduced on account of a better wettability of the fibers. Estimation of the specific effect of certain fabric and fiber properties on the magnitude of biological heat losses leads to the conclusion that the increased evaporative heat loss of polyamide fabrics is due not only to their lower diffusion resistance but also to the skin permeability when wearing thin clothing (see also abstr. 1933/60).

SILK-LIKE FABRICS FROM MANMADE FIBERS. Textile Inds. 124: 94-98, 113 (Aug. 1960). (3535)

Dacron type 62, a modified cross-section filament yarn, and Antron trilobal multifilament nylon yarn are showing some promise in fulfilling demand for fibers with the aesthetics of silk. Their nonround cross sections impart irregular and more silk-like luster to fabrics, providing greater cover and a more pleasing, nonsynthetic hand. They also offer washability and colorfastness. This article presents results of a study on the aesthetics of silk and silk finishing techniques. Photos, photomicrographs.

DESIGNING OF PILE FABRICS. CHAPTER 9. FRIEZE. E. B. Berry. Textile Bull. 86: 61-67 (Aug. 1960). (3536)

Problems and solutions in weaving of frieze are discussed. Diagrs.

CREASING AND OTHER STUDIES OF THE MECHANICAL PROPERTIES OF COMMERCIAL FABRICS. J. Lindberg, A. Bernskiöld, B. Behre, and B. Dahlberg. Medd. TEFO No. 4: 1-29 (1960). In Swedish (English summary). Through BCIRA 40: 2496 (1960). (3537)

Methods are described for measuring the shearing and buckling of plane and corrugated fabric samples. Complete load-deformation-curves are registered. Measurements were made on 66 fabrics. The formability of a fabric is defined as the maximum compression a fabric can withstand before it buckles; it determines, in part, the tailorability and crease pattern; it can be expressed as the product of the anisotropy ratio and the fabric thickness. There is a certain relationship between crease recovery angle and formability. Recovery properties depend mainly on the interaction, within the fabric, of friction and the elastic forces in the fibers.

WOOL CLOTH CONSTRUCTION. Wool Record 98: 425-426 (Aug. 12, 1960). (3538)

Some suggestions are made for manipulating yarns and settings to produce fabrics which possess the essential requirements and yet allow economical production.

NOTE ON THE EFFECTS OF HUMIDITY AND ACTINIC EXPOSURE ON FABRIC STRENGTH. J. J. Moder (Ga. Inst. Technol.). (Letter to the editor). Textile Research J. 30: 620-622 (Aug. 1960). (3539)

A mathematical model to explain the variation in percent strength retention in cotton fabrics after outdoor exposure is derived. Tables.

CUTFIX PRECISION FLOCK CUTTING MACHINE. W. Swatek. Melliand 41, No. 3: 168-172 (1960). (3540)

The machine consists of two basic parts: the cutting machine and a pneumatic transport and storage system for the cut flock. Flock in lengths from 0.1 to 3 mm can be produced, and the machine can also be adapted to produce lengths of 3 to 12 mm. Photos.

COLOR EFFECTS. W. Pflug. Textil-Praxis (English ed.) No. 2: 67-71 (June 1960). (3541)

Color effects are shown, which can be produced by weaving with several shafts (6-8).

SPECIALTY TEXTILES FOR GERMAN INDUSTRY. Man-Made Textiles 37: 32-33 (July 1960). (3542)

Brief survey of novel industrial applications of manmade fibers in West Germany. Photos.

PROFILE PATTERNS FOR TUFTED CARPETS WITH THE MOHASCO UNIT. S. Shorrock (Brit. Tufting Machy. Ltd). Man-Made Textiles 37: 41-45 (July 1960). (3543)

EXPANDABLE FABRIC STRUCTURES IN OUTER SPACE. Goodyear Aircraft Corp. Am. Textile Reptr. 74: 95-96 (July 21, 1960). (3544)

The space possibilities of organic or metallic fiber fabrics formed or shaped by shooting foamed-in-place plastic in areas between layers are briefly noted.

COTTON FABRICS FOR RUBBER FOOTWEAR. Brit. Standards Institution. London, 1960. 7 p. (B.S. 1167/60.) Through BCIRA 40: 1951 (1960). (3545)

This is the third edition of a standard specifying minimum loomstate requirements for woven and knitted fabrics (8 former constructions are retained, with modifications, and 6 new ones have been added).

COATED NYLON FABRICS AND THEIR FUTURE. L. W. Isom (Reeves Bros., Inc.). Canvas Products Rev. 36: 28, 50, 58-59, 72-74 (Aug. 1960). (3546)

IMPORTANCE OF FIBER CONTENT. W. Meyer. Knitter 24: 41-42 (Aug. 1960). (3547)

The nature and combination of fibers in knitgoods have a direct bearing on garment performance.

NYLON AIR STRUCTURE FOR ALL WEATHER CONSTRUCTION. Domestic Film Prods. Co. Am. Textile Reptr. 74: 97-98 (July 21, 1960). (3548)

The use of an air inflated nylon shelter for shielding a home under construction and the workers from bad weather is described.

NATURAL/SYNTHETIC LATEX VERSUS PVC CARPET BACKING. P. F. Schidrowitz. Man-Made Textiles 37: 52-53 (July 1960). (3549)

The reasons for the preference of latex over PVC are cited.

FINISHING D

THE PREPARATION, BLEACHING, AND DYEING OF ACRILAN 16. Chemstrand Corp., Decatur, Ala. Aug. 1960. 5 p. Bull. DF-14, Supplement No. 1. (3550)

CONTINUOUS METHODS IN TEXTILE FINISHING. Textil-Rundschau 15, No. 4: 168-211 (1960). In German. Through BCIRA 40: 2450 (1960). (3551)

Progress in machine construction and improvements in bleaching and dyeing processes are surveyed in the following papers: Modern continuous dyeing methods, by R. Kern, p. 168-183; The pad-roll (Rydboholm system) dyeing technique, by J. Renggli, p. 184-190; Continuous piece dyeing with naphthilide dyes, by H. Herzog, p. 190-194; Production of non-phototropic blue and turquoise dyeings by the continuous pad-steam method, by H. Goorhuis, p. 195-197; The use of hydrogen peroxide on the Benninger continuous open-width bleaching machine, type TFA, by A. Sigg, p. 198-200; Continuous chlorite bleaching methods, by E. Ruedi, p. 200-202; Development in the continuous open-width treatment of textiles, including chlorite bleaching, by W. Marty, p. 202-207; Modern open-width washing machine on more modern principles for continuous processes, by W. Bucher, p. 207-211.

PRETREATMENT, DYEING, AND FINISHING OF BLENDED FABRICS FROM POLYESTER FIBERS AND COTTON OR SPUN RAYON. H.-D. Braun. Z. ges. Textil-Ind. 62, No. 9: 329-333 (1960). In German. Through BCIRA 40: 2299 (1960). (3552)

Directions are given for the mercerization, scouring, drying, thermofixing, bleaching, and optical brightening, dyeing, drying, and singeing of polyester/cotton fabrics, for prewashing (drying, fixing, bleaching, and optical brightening is carried out as above), and dyeing (drying and singeing as above) of polyester/spun-rayon fabrics, and for finishing (water- and creaseproofing) of both fabric types.

CONTINUOUS PAD DYEING MACHINE AND HIGH TEMPERATURE POLYMERIZER. Greenbank Eng. Co. Ltd. Textile Merc. 143: 80-81 (July 15, 1960). (3553)

The polymerizer consists of two units: a vertical preheating section and a multipass high temperature cabinet. The continuous dyeing machine consists of a 3-bowl double dip pad mangle operated by a multipass forced convection drying machine. A single roll compensator which is visually operated from the control station is positioned between the mangle of the dryer. Their main features are noted. Photos.

REVIEW OF NEW DYES AND EQUIPMENT FOR KNITGOODS. C. Reichman. Knitted Outerwear Times 29: 3, 5, 65 (Aug. 29, 1960). (3554)

DYEING AND FINISHING YARNS, KNITWEAR OF ORLON SAYELLE. C. Z. Keresztes (E. I. du Pont de Nemours & Co.). Knitted Outerwear Times 29: 7, 39, 41 (Aug. 29, 1960). (3555)

DYEING AND FINISHING BLENDS OF ORLON AND COTTON. L. Bidgood, Jr. (E. I. du Pont de Nemours & Co.). Knitted Outerwear Times 29: 17, 47-51 (Aug. 29, 1960). (3556)

DYEING, FINISHING OF KNIT FABRICS OF ARNEL/ARNEL 60. J. A. Dayvault (Celanese Corp.). Knitted Outerwear Times 29: 19, 21, 53 (Aug. 29, 1960). (3557)

Chemical processes D1

STUDIES OF WRINKLE RESISTANCE FINISHES FOR COTTON TEXTILES. PART 2. EFFECT OF STORAGE ON PROPERTIES OF WASH-AND-WEAR COTTONS. J. D. Reid, R. M. Reinhardt, R. M. H. Kullman, and R. L. Arceneaux (So. Reg. Research Lab.). Am. Dyestuff Reptr. 49: 527-531 (July 25, 1960). (3558)

The effects of storage of fabrics treated with 5 types of N-methylol finishing agents were investigated. Chlorine resistance, breaking and tearing strength, and wrinkle resistance were determined. The process wash after curing was found to be a critical factor affecting the durability of desirable properties of the finished fabric to storage. Particularly vulnerable to degradation by storage was the chlorine resistance of fabric treated with dimethylol ethyleneurea and the wrinkle resistance of fabric treated with a pyrimidinone derivative when the fabric was not afterwashed. Cotton treated with a triazone or melamine derivative also showed increased chlorine damage when not washed before storage. Graphs, tables, 11 refs.

CHLORINE RETENTION IN MINIMUM-IRON FINISHING OF COTTON FABRICS. W. Rümens, N. Götz, and Z. Zeidler. Melliand 41, No. 3: 210-218 (1960). (3559)

It is shown that, under certain processing conditions, it is possible to obtain even with nitrogen-containing reactant-type resins chlorine and washfast finishes on cotton fabrics without appreciable strength loss. Dimethyloldihydroxyethylene urea is superior to dimethylolethylene urea not only as regards the lightfastness of dyeings with direct and reactive dyes, but also in its chlorine stability. Satisfactory effects are obtained even with small amounts of the former and zinc chloride as catalyst; the chlorine stability, however, still depends upon the amount of catalyst and the condensation conditions. Dimethylolethylene urea is only chlorine stable in combination with buffer substances, e.g. dimethyloltriazinone, in which case magnesium chloride is a better catalyst than zinc chloride. The dimethyloltriazinone compound, which on its own also gives good wash- and chlorine-fast crease resistance, can be combined with dimethyloldihydroxyethylene urea to improve the tensile strength and abrasion resistance of the finished fabric. Yellowing was not observed.

WASHING FOR BLEACHING. Textile Mfr. 86: 285-287 (July 1960). (3560)

The trend in washing machinery used in conjunction with either continuous ranges or batch systems of bleaching is towards the totally enclosed type of washer for steam saving, with the use of the counter flow principle, together with various devices for reducing tension at high speeds. Literature references on washing after kier boiling, washing and scouring before and rinsing after peroxide bleaching, and the use of sulfur dioxide and detergents in washing are also discussed. 4 refs.

CREASE RESISTANT FINISHES WITH UREA-FORMALDEHYDE RESIN. PART 13. MECHANISM OF THE CREASE RESISTANT FINISH WITH SUMITEX RESIN 901. M. Aida, S. Niino, and Y. Konno. J. Soc. Textile Cellulose Inds. Japan 16, No. 4: 334-338 (1960). In Japanese (English summary). Through BCIRA 40: 2314 (1960). (3561)

Viscose rayon fabrics treated with the resin (dimethylol ethylene urea) were examined. The physical properties were intermediate between those for formaldehyde and dimethylol urea. Soaping reduced the nitrogen content and crease recovery but had little effect on elastic recovery and imbibition value.

REACTION OF DIMETHYLOL UREA WITH COTTON. P. C. Mehta and R. D. Mehta (Ahmedabad Textile Ind. Research Assoc.). Textile Research J. 30: 524-532 (July 1960). (3562)

The reaction of dimethylol urea with cotton over a wide range of pH has been studied. Data are presented to show that the structure of the DMU polymer obtained with strongly acidic catalysts such as organic acids and ammonium salts is highly cross-linked, in contrast to the simple linear structure proposed by Steele and Giddings. Such a structure offers a reasonable explanation of the better washfastness of the DMU finish with these catalysts. The contribution of covalent cross-linking of the resin with cellulose in improving crease recovery is also discussed. The use of cuprammonium insolubility as an index of such cross-linking has been examined. Tables, 29 refs.

REACTION OF DIMETHYLOL ETHYLENE UREA WITH COTTON. P. C. Mehta and J. R. Mody (Ahmedabad Textile Ind. Research Assoc.). Textile Research J. 30: 532-539 (July 1960). (3563)

The reaction of dimethylol ethylene urea with cotton over a wide range of pH has been studied. It has been found that the DMEU polymer has a DP ranging from 2 to 5 depending on the acidity of the catalyst used. This variation in DP does not show a significant effect on fabric properties. The chlorine retention by DMEU-treated cotton fabrics has been reviewed, and data have been presented to show the relation between this property and the methylol formaldehyde content of the treated fabric. A method has been suggested for estimating the methylol formaldehyde content. Data have also been presented examining the cuprammonium insolubility as a criterion for covalent cross-linking. Tables, 18 refs.

ELECTRON MICROSCOPY OF LUDOX COLLOIDAL SILICA. G. Dezelic, M. Wrischer, Z. Devide, and J. P. Kratohvil. Kolloid Z. 171: 42-45 (July 1960). (3564)

The samples of Ludox colloidal silica, previously studied by light scattering, were examined in electron microscope. A considerable aggregation of particles was noted in solutions. The aggregates were efficiently removed by centrifugation, as was previously indicated by the decrease in dissymmetry of light scattered by the same solutions. From the electron micrographs the distribution of particle diameters was evaluated and several averages of particle size calculated and compared with the light scattering results. A very good agreement between the two sets of results was found. Micrographs, graph, tables, 8 refs.

ADVANCES IN SILICONE APPLICATIONS TO KNIT GOODS. F. L. Dennett (Dow Chem. Corp.). Knitted Outerwear Times 29: 25 (Aug. 29, 1960). (3565)

EFFECTS OF CROSS-LINKAGE IN WRINKLE-RESISTANT COTTON FABRICS. J. G. Frick, Jr., B. A. K. Andrews, and J. D. Reid (So. Reg. Research Lab.). Textile Research J. 30: 495-504 (July 1960). (3566)

The cross-linking of cellulose in cotton fabric with three wrinkle-resistance finishing agents has been investigated. The three agents used were dimethylol urea, dimethylol ethyleneurea, and formaldehyde. With all three compounds, maximum crease recovery angles are obtained with a substitution of 0.04-0.05 cross links per anhydroglucose unit. As crease recovery angles increase, the elongation and permanent set caused by an 8-kg tensile load on a 1-in. fabric strip decreases. Permanent set approaches zero near 135° warp crease recovery. Changes in the load-elongation curves indicate elastic modulus increases as crease recovery angles increase. Treatment of fabric to the same crease recovery angles with the three compounds reduces tearing and breaking strengths to different extents. The differences are due to different amounts of cellulose degradation caused by the acidic catalyst systems and not to the structure of the cross links. Graphs, tables, 8 refs.

EFFECT OF SODIUM CHLORITE ON BAST FIBERS. M. Lüdtke. Melliand Textilber. 41, No. 4: 437-442 (1960). In German. Through BCIRA 40: 2289 (1960). (3567)

In this review the author discusses the sodium chlorite treatment of bast fibers under various conditions (holocellulose preparation), color reactions of holocelluloses with alcoholic phloroglucinol/hydrochloric acid and with potassium permanganate/ammonia (Mäule reaction) behavior of the fiber protein during chlorite treatment, and precipitation in the chlorite solution of a protein- and carbohydrate-containing product. It is shown that the lignin b remains in the cell wall and cannot be removed completely. 26 refs.

FLUORESCENT BRIGHTENERS AND BLUING AGENTS IN WOOL PROCESSING. AATCC Del. Valley Sect. Am. Dyestuff Reptr. 49: P565-P584 (Aug. 8, 1960). (3568)

Fluorescent brighteners and blue dyes used to adjust the off-white yellow color of wool to a more pleasing white have been found by test to have generally poor wetfastness, poor lightfastness, or both. These are seldom applied with uniformity, may cause drift of shade in subsequent continuous scouring, and may lead to difficulty in precise matching of very light shades. To what extent and in what way these agents contribute to processing difficulties are drawn from mill experience and are shown in laboratory dyeings, fastness tests, etc. Difficulties in simple methods of detection of small amounts of these materials are discussed. Photos, tables, 30 refs.

BACK FINISHING OF CORDUROY AND VELVETEEN FABRICS. K. H. Stukenbrock. Z. ges. Textil-Ind. 62, No. 9: 359-361 (1960). In German. Through BCIRA 40: 2312 (1960). (3569)

Observations made in laboratory and plant-scale experiments during finishing of cotton corduroy and velveteen qualities are reported, special attention being paid to preparation of the fabric, cleanliness, rewettability, and pre-oiling. Some remarks are made on the effectiveness of plasticizers for the finishes (based on castor-oil sulfonates), the advantages and disadvantages of various finishing agents, and the improvement of faulty finishes.

BACKWASHING FINE MERINO WOOLS. Fibre and Fabric 113: 4-5 (Aug. 1960). (3570)

PRETREATMENT FOR BETTER WASH-AND-WEARS. A. J. Hall. Textile World 110: 82-83 (Aug. 1960). (3571)

The use of a caustic pretreatment for cotton or rayon fibers improves wet crease resistance with retention of original wearing qualities. Tables.

ENZYMATIC DEGRADATION OF CELLULOSE. F. Opderbeck and G. Wörner. Papier, Darmstadt 14, No. 4: 131-137 (1960). In German. Through BCIRA 40: 2511 (1960). (3572)

In this review, the authors discuss the accessibility of cellulose to enzyme complexes; preparation of cellulase solutions; determination of cellulase activity and definition of cellulase units; enzymic degradation of ground pulp and its dependence upon the degree of grinding, type of grinder, and enzyme concentration; pulp loss during enzymic degradation; effect of enzymes on cold-refined pulps; degradation of beech sulfite pulps (bleached in 3 stages and treated with various concentrations of sodium hydroxide, or mercerized); degradation of alkali-treated linters. 56 refs.

FAULTS IN WET PROCESSING SEWING AND KNITTING YARNS. Fibre and Fabric 113: 8-9, 12 (Aug. 1960). (3573)

MAJOR ADVANCE IN MOTHPROOFING ART. R. W. Moncrieff. Wool Record 98: 239-240 (July 22, 1960). (3574)

The use and high efficiency of Dieldrin for mothproofing are discussed. 4 refs.

STUDIES ON TEXTILE FINISHING AGENTS. PART 13. AQUEOUS POLYMERIZATION OF N-METHYLOL-ACRYLAMIDE. PART 14. CROSS-LINKING OF POLYMETHYLOLACRYLAMIDE BY HEAT TREATMENT. PART 15. CROSS-LINKING OF THE EMULSION COPOLYMER OF N-METHYLOLACRYLAMIDE AND ETHYLACRYLATE BY HEAT TREATMENT. PART 16. CALCULATING THE CROSS-LINKING DENSITIES OF THE EMULSION COPOLYMERS OF N-METHYLOLACRYLAMIDE AND ETHYL ACRYLATE. PART 17. POLYMERIZATION AND CONDENSATION REACTION OF N-METHYLOLACRYLAMIDE WITHIN COTTON FABRICS. H. Kamogawa, R. Murase, and T. Sekiya. Bull. Textile Research Inst. (Japan) No. 52: 79-116 (1960). In Japanese (English summary). Through BCIRA 40: 2315 (1960). (3575)

KAURIT KF IN SPUN RAYON AND RAYON FINISHING. H. H. Koch. Spinner u. Weber 78, No. 4: 252-256 (1960). In German. Through BCIRA 40: 2464 (1960). (3576)

A detailed description is given of the finishing of fabrics with Kaurit KF (a BASF product in paste form, which is identical with dimethylolurea and which, in the swollen state, easily penetrates into the intramicellar spaces where it is retained by the hydroxyl groups situated at the inner surfaces of the cellulose chains). Reference is made in particular to the principles of the treatment and to various patents.

RESIN FINISHING WITH ACRYLIC ACID MONOMER. PART 4. S. Yamada and H. Kojima. J. Soc. Textile Cellulose Inds. Japan 16, No. 4: 330-333 (1960). In Japanese (English summary). Through BCIRA 40: 2313 (1960). (3577)

Polymerization on viscose spun-rayon fabric was examined, using the optimum conditions previously determined.

POLYMERIZATION OF ACRYLONITRILE FROM THE VAPOR PHASE ONTO COTTON BY GAMMA IRRADIATION. H. A. Rutherford, A. A. Armstrong, Jr., L. H. Kiser, and R. D. Kirby (N. C. State Coll.). (Letter to the editor). Textile Research J. 30: 546 (July 1960). (3578)

STUDIES OF THE MOVEMENT OF WOOL FIBERS IN FABRICS DURING FELTING, WITH PARTICULAR REFERENCE TO THE PERMANENCY OF PLEATS. PART 3. FELTING IN A WOOLEN FABRIC. K. R. Makinson (C.S.I.R.O. Wool Research Labs.). Textile Research J. 30: 598-606 (Aug. 1960). (3579)

The changes of configuration and the movements of fibers in a woolen fabric during washing have been studied by the use of red-dyed tracer fibers and a pattern of printed lines. The behavior of isolated fibers and of yarns when wetted has also been studied. The dominant mechanism of felting has been found to be one for which the name "release" mechanism is proposed; rootward migration of some fibers releases interfiber constraints and allows short lengths of many fibers to untwist from their helical shape to a limited extent. This is associated with very rapid shrinkage of the fabric. This mechanism is present but is usually much less important in worsteds. Pleats are even more rapidly spoiled by washing when this mechanism of felting is dominant than when Shorter's mechanism (see Part 2, abstr. 2064/59) is dominant. The definition of felting is discussed. Photomicrographs, table, 20 refs.

COMPARATIVE WEATHERING STUDY OF DIFFERENT METAL 8-QUINOLINOLATES. E. L. Patton, W. N. Berard, and R. J. Brysson (So. Reg. Research Lab.). Canvas Products Rev. 36: 26, 64-65 (Aug. 1960). (3580)

Ten laboratory prepared metal-8-quinolinolate compounds were applied to 8 oz duck and 80 x 80 print cloth and the treated fabrics exposed to 12 months weathering. The effects of the metal-8 compounds are compared with a commercial copper-8 and the parent compound, 8-hydroxyquinoline, on the basis of color, mildew inhibition, and fabric strength retention after exposure. Aluminum-8 and zinc-8 were light in color (yellow tan and light yellow, respectively) and imparted mildew resistance to the treated duck. Cobalt-8 (cream tan) gave a fair degree of sunlight protection. The laboratory prepared copper-8 afforded mildew resistance and was much lighter in color than the commercial grade of copper-8. The dark colored commercial compound on duck provided the highest strength retention after exposure and was free from visible mildew. 5 refs.

EFFECT OF COATING FABRICS WITH PLASTICS ON THEIR COLOR. A.-M. Baron. Teintex 25, No. 3: 157-194 (1960). In French. Through BCIRA 40: 2465 (1960). (3581)

In this review, the author discusses, after a brief historical introduction, the technique and equipment used, the choice of suitable resins, their adhesiveness, the use of plasticizers, and the behavior of various dye classes and pigments. 56 refs.

SOME OBSERVATIONS ON A LATTICE CONDITIONING MACHINE. T. W. Walker. Textile Weekly 60 (2): 231-234, 249 (July 29, 1960). (3582)

Following an explanation of the mechanical controls and their relationship to the conditioning process, results of trials on the effects of quantity and concentration of conditioning liquid on moisture regain and of machine settings on liquid penetration are reported. Diagr, graph, tables.

PROPERTIES OF COTTON CONTAINING RADIATION-POLYMERIZED ACRYLONITRILE. J. C. Arthur, Jr. and R. J. Demint (So. Reg. Research Lab.). Textile Research J. 30: 505-509 (July 1960). (3583)

Relatively large quantities of acrylonitrile monomer in aqueous zinc chloride were applied to cotton and radiation-polymerized in the presence of the cotton. There was only a slight decrease in breaking strength, a significant increase in elongation-at-break, and a decrease in stiffness of the fibers. Resistance to acid and to heat degradation of the yarn containing polyacrylonitrile was comparable to that of untreated yarn. A radiation dosage of 0.8 megaroentgen gave a maximum add-on of polymer. Photomicrographs, tables, 14 refs.

DURABILITY OF OLEOPHOBICITY OF COTTON FABRICS IMPARTED BY FLUOROCHEMICALS. R. J. Berni, R. R. Benerito, and F. J. Philips (So. Reg. Research Lab.). Textile Research J. 30: 576-586 (Aug. 1960). (3584)

Durability of oleophobicity imparted to cotton fabrics by additive finishes and by the incorporation of fluorochemicals into the cellulose molecule by means of an ether linkage has been investigated. Studies on the relative effectiveness of additive finishes in maintaining oleophobicity on weathering have been made. Results of soil burial tests involving the use of aluminum triacetate and perfluorooctanoic acid on various fabric constructions are reported. Various techniques used in efforts to improve durability of the latter finish to aqueous launderings are described. Photomicrographs, graph, tables, 8 refs.

STUDIES ON THE STIFFNESS OF SILK FIBERS. PART 6. SOFTENING OF RAW SILK BY SURFACTANTS AND SEVERAL OTHER AGENTS. H. Takagi. J. Soc. Textile Cellulose Inds. Japan 16, No. 4: 277-280 (1960). In Japanese (English summary). Through BCIRA 40: 2349 (1960). (3585)

Nonionic agents have a weak effect alone, but a stronger one when mixed with a higher alcohol. Some cationic agents have a considerable effect, but moisture plays an important role. Some ampholytic surfactants had a strong effect, ethylene glycol and its polymers, and dimethyl urea, a weak effect, and tannic acid a hardening effect.

UTILIZATION OF MONOCHLOROUREA IN THE COTTON INDUSTRY. J. Devay. Magyar Textiltech. 11, No. 5: 198-199 (1959). In Hungarian. Through BCIRA 40: 2448 (1960). (3586)

Monochlorourea can be used in desizing and optimum conditions were established. Thorough degradation of starch is achieved, and the treated material has good wettability and a certain degree of whiteness. Dyeing after desizing and boiling is possible for darker-shade materials.

PROGRESS IN THE FIELD OF HANK YARN MERCERIZATION. R. B. Vogel and H. Hölters. Textil-Praxis (English ed.) No. 2: 88-93 (June 1960). (3587)

A new automatic machine (MV 56) has been developed by Maschinenfabrik Gerber. The hanks are not immersed; the lye is sprayed. Mercerization times are reduced by as much as 40%, and a satisfactory result is obtained even with hard twisted ply yarns in a single operation. The machine is illustrated, and the experimental results evaluated.

BOILING VISCOSE STAPLE FABRICS UNDER PRESSURE. V. Roman and G. Turcu. Industria Textila 11, No. 4: 131-134 (1960). In Rumanian (English summary). Through BCIRA 40: 2449 (1960). (3588)

The value of scouring to improve moisture absorbency of cloths to be printed is discussed.

Dyeing and printing D2

QUINONOID DYES. PART 14. RELATION BETWEEN COPLANARITY AND SUBSTANTIVITY OF QUINONOID DYES APPLIED TO SECONDARY CELLULOSE ACETATE AND CELLULOSIC FIBERS. E. H. Daruwalla, S. S. Rao, and B. D. Tilak. J. Soc. Dyers Colourists 76: 418-424 (July 1960). (3589)

Two series of coplanar dyes derived from naphthaquinones have been synthesized, and for each dye a corresponding non-coplanar compound has also been obtained. Dyes belonging to one of these series could be applied to secondary cellulose acetate rayon from aqueous dispersion, while cellulosic fibers could be dyed satisfactorily from an alkaline reducing bath with dyes belonging to the second series. The affinity values of these dyes have been determined, and the importance of coplanarity for substantivity is discussed. Graphs, tables, 24 refs.

USE OF IMMEDIAL DYESTUFFS HYDROSOL IN MACHINE AND PIECE DYEING. C. Klopfstock and W. Titzka. Melliand 41, No. 3: 218-224 (1960). (3590)

Applicability of these dyes (water-soluble sulfur dyes) in machine and piece-good dyeing is discussed, with special reference to the methods which proved satisfactory in practice. Two dyeing methods are particularly mentioned, which were developed for special plant conditions and which might in future find general application.

EFFECT OF THE NATURE OF ALKYL SUBSTITUENTS ON THE DYEING AFFINITY OF MONOAZO ACID DYES. J. Meybeck, P. Ruckstuhl, and J.-M. Thumann. Teintex 25, No. 4: 241-279 (1960). In French. Through BCIRA 40: 2454 (1960). (3591)

The study was carried out on a new group of azo dyes, in which the alkyl residue is fixed directly to the diazotizable base (in ortho, para, or meta position), e.g. aniline, the coupling agent being chosen so as to obtain either acid wool or substantive dyes. Preparation, properties of the dyes, and fastnesses of the dyeings are discussed, and an extensive bibliography (especially patents) is cited. 110 refs.

FASTER SHADES ON NYLON. R. L. Jones (Brit. Nylon Spinners Ltd). Nylon Outlook 3, No. 1: 18-23 (Spring 1960). (3592)

The techniques described for achieving fast shades include: Lyogen P (Sandoz AG), Alkanol LN (Du Pont Co.), Irgasol NJ (Geigy Co. Ltd), and Procinyl dye application (Imp. Chem. Inds. Ltd). Photos, diagrs.

PRINCIPLES OF PADDING. R. A. Peel. Dyer 124: 95-96 (July 15, 1960). (3593)

Following a brief outline of the basic rules to be followed in padding, some references to useful articles on padding are noted, and methods of ensuring even squeeze or expression are discussed.

CHEMISTRY OF ESTERS OF LEUCO VAT DYES. PART 4. OXIDATION WITH SOLUTIONS OF NITROUS ACID. A. Johnson and A. P. Lockett (Manchester Coll.). J. Soc. Dyers Colourists 76: 412-418 (July 1960). (3594)

When the sulfuric esters of leuco vat dyes are developed with acidic nitrous acid solutions in the complete absence of oxygen, the sulfate groups are removed only by hydrolysis; the resulting leuco dye is then oxidized by nitrous acid. When oxygen is present development is far more rapid, the majority of sulfate groups being removed by direct oxidation with hydroxyl radicals via a chain mechanism. The chain reaction is initiated by hydrogen peroxide (or HO_2 radical) and propagated by the homolytic fission of pernitrous acid and its reformation from nitrogen dioxide and nitrous acid. This mechanism is thought to operate in normal development. A modification of the technical development process is suggested. Graphs, 8 refs.

CALCOZINE DYES FOR ACRYLIC AND MODACRYLIC FIBERS. H. E. Millson (Am. Cyanamid Co.). Knitted Outerwear Times 29: 11, 55 (Aug. 29, 1960). (3595)

CATIONIC DYESTUFFS FOR COLORING ACRYLIC FIBER MATERIAL. Knitted Outerwear Times 29: 15, 59 (Aug. 29, 1960). (3596)

PROCION FIBER REACTIVE DYES FOR COTTON, RAYON KNITS. Knitted Outerwear Times 29: 23, 57 (Aug. 29, 1960). (3597)

DYEING ALL THE ACRYLICS. A. Aldridge and P. U. Jordan (Industrial Dyestuffs Ltd). Man-Made Textiles 37: 49-50 (July 1960). (3598)

The characteristic properties and dyeing techniques for the main types of acrylic fibers (copolymers of acrylonitrile with vinyl chloride, e.g. Dynel; copolymers of acrylonitrile with vinyl acetate or vinyl pyridine, e.g. Acrilan and Creslan; and mixed polymers with a high percentage of acrylonitrile, e.g. Orlon 42, Dralon, Courtelle, and Tacryl) are summarized. Factors influencing the affinity of cationic dyes for the fibers are noted, and a general procedure for dyeing acrylic fibers with cationic dyes is described. Graph.

DYEING SYNTHETICS WITH AZOIC DYES. J. E. Flint (Gen. Aniline & Film Corp.). Textile Inds. 124: 101-104 (Aug. 1960). (3599)

The azoics, either alone or in combination with certain disperse or cationic dyes, offer great possibilities for producing many shades on the newer synthetics economically and with satisfactory fastness properties. In the field of polyester fibers, the azoics have proved most useful, with black shades being the most important. Dyeing of blacks on polyester fibers and blends in top, tow, and stock, package, and piece goods form are detailed, and methods of application on other fibers are briefly described.

DYEING OF MODIFIED POLYACRYLONITRILE FIBERS. F. Stabel. Z. ges. Textil-Ind. 62, No. 9: 363-369 (1960). In German. Through BCIRA 40: 2301 (1960). (3600)

The dyeing of Dralon and Orlon 42 (containing acid constituents) and of Acrilan (containing basic constituents) alone, and with other fibers is discussed, with special reference to bleaching, dyes used, and equipment and machinery required.

INTRODUCTION OF CHELATE BONDS INTO FIBERS. PART 11. DETERMINATION OF THE DISTRIBUTION OF CR IN POLYESTER FIBER. N. Hojo and N. Minemura. J. Soc. Textile Cellulose Inds. Japan 16, No. 4: 296-298 (1960). In Japanese (English summary). Through BCIRA 40: 2300 (1960). (3601)

The dyeing behavior and weight loss of Tetoron treated with potassium dichromate and heated with sodium hydroxide solution for different periods of time were examined, and the degree of penetration of chromium from the surface of the fiber was calculated.

DEVELOPMENTS IN DYEING CELLULOSE FIBERS WITH REMAZOL DYES. H. U. von der Eltz. Z. ges. Textil-Ind. 62, No. 9: 325-328 (1960). In German. Through BCIRA 40: 2296 (1960). (3602)

New techniques for the application of Remazol dyes by padding methods (single- and two-bath process) and by exhaustion methods are described, and the advantages of the dyes are enumerated.

STUDIES ON THE DYEING OF ACRYLONITRILE FIBER. PART 3. APPROPRIATE REDOX POTENTIAL OF CUPROUS-ION TECHNIQUE. PART 4. USE OF HIGH TEMPERATURE DYEING. Y. Takase. J. Soc. Textile Cellulose Inds. Japan 16, No. 4: 315-323 (1960). In Japanese (English summary). Through BCIRA 40: 2302 (1960). (3603)

Part 3. Hydroxylamine sulfate is the best reducing agent; dyebath pH 2-4, deepest shade at pH 3. Part 4. Dyeing time at 105° C is 1/2-1/3 of that at 100° C and 1/4-1/5 of that at 95° C.

DYEING OF VINYLON WITH BASIC DYES. A. Katayama, N. Kuroki, and K. Konishi. J. Soc. Textile Cellulose Inds. Japan 16, No. 4: 324-329 (1960). In Japanese (English summary). Through BCIRA 40: 2303 (1960). (3604)

The absorption isotherm of different dyes, in presence and absence of salt, at 80° C, were determined, and the dyeing mechanism is discussed.

DYEING ACCORDING TO RECIPE AND ITS ADVANTAGES (TAXFAERBEREI). E. Benz. Melliand 41, No. 3: 202-210 (1960). (3605)

The Benz range of laboratory equipment (jig, padding mangle, dryer, and winch) makes it possible to use results obtained in the laboratory in actual practice. Features and operation of the individual units are described. Photos, diagrs.

TAX LABORATORY DYEING AND ITS ADVANTAGES. E. Benz. Melliand Textilber. 41, No. 4: 447-450 (1960). In German. Through BCIRA 40: 2290 (1960). (3606)

The Tax dyeing method is carried out on a miniature dyeing plant, in which the conditions and equipment are adapted to those of a large-scale dyeing installation. Suitable dye compositions are thereby determined for materials taken from batches to be dyed on a large scale. Advantages of the method are enumerated, and a description is given of the laboratory jig, padder, winch beck, and dryer developed for the miniature plant by E. Benz.

PROCEDURE FOR PIECE DYEING SWEATERS OF ACRILAN. Knitted Outerwear Times 29: 9, 43 (Aug. 29, 1960). (3607)

DYEING OF WOVEN AND KNITTED FABRICS FROM SYNTHETIC FIBERS ON BEAMS IN HIGH TEMPERATURE EQUIPMENT. F. Graf. Z. ges. Textil-Ind. 62, No. 9: 369-371 (1960). In German. Through BCIRA 40: 2292 (1960). (3608)

A new dyeing apparatus (B. Thies) for high temperature dyeing of woven and knitted fabrics from chemical fiber blends is described.

PROCESSES TAKING PLACE DURING REACTION OF REACTIVE DYES WITH CELLULOSE FIBERS. E. Elöd and Y. Nakahara. Melliand Textilber. 41, No. 5: 567-572 (1960). In German. Through BCIRA 40: 2295 (1960). (3609)

The desorption of reactive dyes from dyed cellulose and cellulose hydrate fibers is studied for the first time and compared with the desorption of substantive and vat dyes. Assuming a hydrolytic cleavage of ester- and ether-type linkages, it was found that the desorption process is a first-order reaction and, consequently, the bond between these dyes and the cellulose is of a chemical nature. The experiments were carried out with Cibacron, Remazol, and Procion dyes. Three possible reactions between dichlorotriazine dyes and cellulose hydrate fibers are examined. According to the reaction conditions (bicarbonate- or carbonate-alkaline cold, or sodium hydroxide- or carbonate-alkaline hot), the Cuoxam-solubility of the fibers dyed in this manner varies. The reaction mechanism and, consequently, the behavior in Cuoxam are interpreted.

EMULSION PRINTING WITHOUT RESIN. R. Ruf. Melliand Textilber. 41, No. 4: 451-455 (1960). In German. Through BCIRA 40: 2308 (1960). (3610)

Various possibilities of using resinless emulsions in textile printing are discussed, with special reference to the Neopat process (BP 733 099) (preparation of Neopat emulsions; their use in roller and screen printing; steaming of the prints; washing and appearance of fabrics printed by the Neopat method; costs; direct printing with vat, Solan, insoluble azo, Solasol, oxidation, direct, acid, chromium and reactive dyes; discharge and resist printing; printing of manmade fiber fabrics).

PRINTS ON POLYESTER FIBER FABRICS AND FABRIC BLENDS. B. Hantsch. Melliand Textilber. 41, No. 1: 68-72; No. 5: 580-586 (1960). In German. Through BCIRA 40: 2310 (1960). (3611)

The present state of printing polyester fiber textiles is reviewed, with special reference to direct printing with disperse and vat dyes, and to the difficulties still encountered in printing cotton/polyester fabrics and in white and colored discharge printing of highly hydrophobic polyester fabrics.

PROGRESS IN THE APPLICATION OF VAT DYES IN PRINTING. A. Blum. Melliand Textilber. 41, No. 5: 587-593 (1960). In German. Through BCIRA 40: 2309 (1960). (3612)

The difficulties encountered during machine and screen printing with vat dyes by the classical method can be overcome by using the new reducing agents Rongal A and Rongalite FD. The prints obtained exhibit maximum fastness properties. By using Rongal A in the 2-phase printing method, it is possible to use economically almost all vat dyes and to reduce considerably the consumption of steam; variations in the steam quality no longer affect the appearance of the prints.

DEVELOPMENT OF CARRAGHEENATES AND THEIR USE IN CALICO PRINTING. H. Schulzen. Melliand Textilber. 41, No. 5: 596-600 (1960). In German. Through BCIRA 40: 2304 (1960). (3613)

The chemical structure and properties of carragheen, carragheenin, and carragheenates (known under the trade name of Gomarine), obtained from red algae Gigardina mammilosa and Chondrus crispus are compared with alginates, and their use in calico printing is discussed.

PRINTING OF TERYLENE POLYESTER FIBER AND FABRICS. Imp. Chem. Inds. Ltd. Can. Textile J. 77: 43-44 (Aug. 5, 1960). (3614)

The two main processes used, e.g. steaming and dry heat, are described, together with suitable recipes and processing techniques.

ENGLISH CONTRIBUTION TO THE DEVELOPMENT OF COPPER-PLATE PRINTING. P. C. Floud (Victoria & Albert Museum). J. Soc. Dyers Colourists 76: 425-434 (July 1960). (3615)

Copper-plate printing of textiles was first introduced by Francis Nixon at the Drumcondra works, near Dublin, in 1752, and by 1754 the secret had been transmitted to England. For the next 20 years it remained virtually a monopoly of the Dublin and London printers. An examination is made of the difference between seventeenth century non-fast copper-plate printing of maps and handkerchiefs and the copper-plate printing with fast dyes by Nixon and his contemporaries. Examination of patents enables some description to be given of the development of textile copper-plate printing presses. Photos, diagrs, 42 refs.

ROLLER PRINTING. PART 2. REFRESHER ON PRINTING MACHINES. L. H. Ferguson (Wade Mfg. Co.). Textile World 110: 74-76 (Aug. 1960). (3616)

The major parts and functions of the roller printing machine are described. Photo, diagr.

THREE ROCA PROCESSES IN TEXTILE PRINTING. R. Hünlich. Melliand Textilber. 41, No. 5: 595-596 (1960). In German. Through BCIRA 40: 2306 (1960). (3617)

The principles of the Roca, Rocacop, and Roca-hachure photoengraving methods for printing rollers are described.

CONTINUOUS WASHING OF BACK CLOTHS IN THE ROLLER PRINTING MACHINE. H. Verboom. Melliand Textilber. 41, No. 5: 593-595 (1960). In German. Through BCIRA 40: 2307 (1960). (3618)

The economical advantages of washing the back cloth in a Vibrotex open-width washing machine (Küsters) while in the printing machine are enumerated.

NEW FINDINGS AND EXPERIENCES DURING DYEING OF PIECE GOODS FROM CELLULOSIC FIBERS WITH VAT DYES. F. Berndt. Z. ges. Textil-Ind. 62, No. 9: 351-357; No. 10: 419-421 (1960). In German. Through BCIRA 40: 2457 (1960). (3619)

Dyeing of cotton, silk and spun-rayon fabrics, as well as knitted goods, is discussed, accurate directions being given for the pretreatment and the individual dyeing methods, with special reference to the machinery and equipment used.

PRINTING PLANT AUXILIARY MACHINES AND INSTALLATIONS. A. Franken. Z. ges. Textil-Ind. 62, No. 9: 375-379 (1960). In German. Through BCIRA 40: 2305 (1960). (3620)

Auxiliary printing equipment and devices are reviewed, and their mechanism is described.

RECENT TRENDS IN SOLUTION DYEING OF SYNTHETIC FIBERS. C. Reichman. Knitted Outerwear Times 29: 3, 5 (Sept. 5, 1960). (3621)

A table of fibers and yarns available in solution-dyed colors is included.

DYEING OF ELASTIC SKI-WEAR FABRICS OF BULKED NYLON CREPE AND WOOL IN A LOW-TENSION JIGGER. G. Reinecke (Ciba AG). Melliand 41, No. 3: 198-202 (1960). (3622)

Methods of dyeing elastic ski-wear fabrics composed of Helanca and wool in a low-tension jigger with hood are discussed. The process is carried out either by a 1-bath 2-stage method with Neolan and Cibacet dyestuffs, or with a combination of Cibalan Brilliant and Cibacet dyestuffs, the latter being employed for more brilliant shades. Blacks are dyed with Cibalan Black BGL, 2BL or 2GL. Aftertreatment in the full-width washer is an important operation in these processes.

THE PADDER. B. Giacomo. Tinctoria 57, No. 4: 139-145 (1960). In Italian. Through BCIRA 40: 2451 (1960). (3623)

Dyeing and finishing of fabrics on the padder are discussed, with special reference to the effect of three variables: type of fabric, bath composition, and construction of padder.

NEW FINDINGS DURING THE ONE-STAGE PAD-JIG PROCESS. R. B. Vogel. Melliand Textilber. 41, No. 4: 445-446 (1960). In German. Through BCIRA 40: 2291 (1960). (3624)

Practical results obtained by using the pad-jig method on a combined jig-padder are discussed and compared with those obtained by using a padder and jig separately.

HOW TO EVALUATE FUGITIVE TINTS. J. D. Saunier (Intern. Gen. Elec. Co.) and F. R. Trip (New Bedford Inst. Technol.). Textile World 110: 80-81 (Aug. 1960). (3625)

A laboratory (and mill) procedure for evaluating the comparative costs and efficiency of water soluble tints is described.

COLORFASTNESS OF DYED VINYLON/COTTON BLENDED FABRICS. PART 1. FASTNESS AGAINST WASHING. PART 2. FASTNESS AGAINST LIGHT. K. Fujino, N. Fujimoto, and Y. Fujita. J. Textile Machy. Soc. Japan 13, No. 5: 323-328 (1960). In Japanese (English summary). Through BCIRA 40: 2461 (1960). (3626)

In washfastness tests, the transfer of color is greater from Vinylon than from cotton, but the fading is less because of the high luminosity of dyed Vinylon. In lightfastness tests, a deep shade fabric is faster than a light colored fabric (evidence of flocking of the dye molecules in the fibers). The lightfastness of direct dyed Vinylon is higher than that of direct dyed cotton.

CALCULATION OF SUBSEQUENT ADDITIONS DURING NAPHTHOL PADDINGS. R. Loss. SVF Fachorgan Textilveredlung 15, No. 4: 270-271 (1960). In German. Through BCIRA 40: 2452 (1960). (3627)

An attempt is made to calculate the concentration of subsequent Naphthol additions from the absorption/time curve. This method can be also used for vat leuco esters or optical brighteners.

EXPERIENCES IN PAD-ROLL DYEING. R. Kern. SVF Fachorgan Textilveredlung 15, No. 4: 260-269 (1960). In German. Through BCIRA 40: 2453 (1960). (3628)

A brief description is given of the Svetema pad-roll machine, and instructions are given for the treatment of cellulose-, hydrophobic- (nylon, polyester, polyacrylic) and blended fiber fabrics. Attempts to dye wool by this method were not very successful.

INCORPORATION OF ULTRAVIOLET ABSORBERS IN TEXTILES. D. J. Delano (Bradford Durfee Coll. Technol.). Am. Dyestuff Reptr. 49: P536-P537 (July 25, 1960). (3629)

From the experiments reported it was concluded that it is possible to impart improved lightfastness to dyes and pigments by the use of ultraviolet absorbers. It was found that the best area of application of these absorbers would be in conjunction with dyes of fairly good fastness.

Mechanical processes D3

SCHERMEISTER SHEARING MACHINE FOR FABRICS CONTAINING SYNTHETIC FIBERS. R. Ripp. Melliand Textilber. 41, No. 5: 609-610 (1960). In German. Through BCIRA 40: 2287 (1960). (3630)

The construction and mechanism of the machine (Kettling & Braun) are described.

A GUIDE TO WINDING. PART 1. S. F. Oakes and A. A. Arterton (Hobbs Mfg. Co.). Modern Plastics 37: 105-110, 195-196 (Aug. 1960). (3631)

The engineering principles involved and the major items of equipment needed for film winding.

Drying, setting, conditioning D4

VARIATIONS IN THE EQUILIBRIUM WEIGHT OF WOOL AT ZERO HUMIDITY. I. C. Watt and R. H. Kennett (C.S.I.R.O. Wool Research Labs.). Textile Research J. 30: 489-494 (July 1960). (3632)

Evidence is presented showing that the initial water concentration, the temperature, and the length of time wool fibers were equilibrated with water vapor prior to desorption are some of the factors influencing the equilibrium weight obtained after vacuum drying. A reproducible equilibrium weight can be obtained on desorption to zero humidity by ensuring that the wool sample is saturated with water for some time prior to the desorption. Graphs, tables, 4 refs.

AUTOMATIC WATER-REMOVING INSTALLATION FOR YARN AND THE SECOMAT DRYER, SCHOLL SYSTEM. R. Weber. Melliand Textilber. 41, No. 5: 607-609 (1960). In German. Through BCIRA 40: 2320 (1960). (3633)

The new Secomat system described consists of 3 individually operating, but interdependent, units: automatic yarn package feeding and removing troughs with shaking motion, automatically filling and emptying centrifuges, and thermostatically controlled drying chambers with package carriers.

ELECTROFIXER: PRINCIPLES AND POSSIBLE APPLICATIONS. H. Aubauer. Melliand Textilber. 41, No. 5: 600-605 (1960). In German. Through BCIRA 40: 2288 (1960). (3634)

The principles of a steamless fixing apparatus are discussed, with references to the devices developed on this basis since 1933. A new type of electrofixer is described in detail, which can be used in continuous open-width desizing, bleaching, dyeing, and printing.

TESTING AND MEASUREMENT E

Fibers E1

STUDIES ON THE MICROSCOPIC STRUCTURE OF POLYAMIDE-6 FIBERS. K. Schwertassek. Faserforsch. u. Textiltech. 11, No. 3: 125-129 (1960). In German. Through BCIRA 40: 2485 (1960). (3635)

The photomicrographs of polyamide-6 fibers degraded enzymatically in the living organism (in tests on animals with artificial arteries from these fibers) and swelling photographs of fiber membranes prepared by a special method show only lamellar decomposition products from which a lamellar structure of these fibers can be assumed. Other synthetic fibers (e.g. polyester and polyacrylonitrile) show evidence of a fibrillar structure. Observations on the residues of enzymatically degraded polyamide-6 fibers lead to the conclusion that these fibers are composed of concentrically arranged cylinders fitted into each other. The high abrasion resistance of these fibers may be correlated with their lamellar structure.

INTERPRETATION OF STAINING RESULTS OBTAINED BY THE PROCION BLACK HGS PROCEDURE. K. Kato (Toyo Rayon Co. Ltd). (Letter to the editor). Textile Research J. 30: 540-542 (July 1960). (3636)

The significance of the staining results obtained by the Procion Black HGS procedure for skin-core differentiation of viscose with regard to the physical and chemical structure of the fibers under observation is examined. See abstr. 3424/59. Photomicrographs, 2 refs.

CONTINUOUS SIMULTANEOUS MEASUREMENTS OF RIGIDITY AND REGAIN IN A FILAMENT DURING A SORPTION PROCESS. B. H. Mackay and J. G. Downes (C.S.I.R.O. Wool Research Labs.). (Letter to the editor). Textile Research J. 30: 628-629 (Aug. 1960). (3637)

The simple technique described here allows continuous simultaneous determination of the dynamic torsional rigidity of a fiber (or yarn) and of the uptake of water vapor (or other sorbate vapor) by the same fiber. Diagr, 9 refs.

DETERMINATION OF MOISTURE IN WOOL WITH KARL FISCHER REAGENT. J. R. Wilson and M. M. Sandomire (W. Reg. Research Lab.). Textile Research J. 30: 587-591 (Aug. 1960). (3638)

A rapid method for determination of moisture in wool with the Karl Fischer reagent has been developed and tested. This method offers the advantages of precision, accuracy, and speed. The ASTM convection oven method and a vacuum oven method (70° C for 40 hr at 5 mm Hg or less) were used for comparative purposes. Formamide was used as the water-extracting solvent in the Fischer method. It is a powerful dehydrating agent capable of dehydrating activated alumina, silica gel, and other such desiccants. In addition, with direct titrations, formamide gives a more stable endpoint than methanol. Tables, 3 refs.

METHOD OF REMOVING THE OUTER LAYERS OF ANIMAL FIBERS. J. W. Snaith (C.S.I.R.O. Wool Research Labs.). (Letter to the editor). Textile Research J. 30: 543 (July 1960). (3639)

A device for abrading wool fiber lengths of approximately 10 cm to remove the paracortex and separate out pure orthocortex is described. Photomicrograph, diagr, 3 refs.

METHOD OF MEASUREMENT OF BREAKING STRENGTH FOR SINGLE PULP FIBERS. T. Shimoyamada. J. Soc. Textile Cellulose Inds. Japan 16, No. 4: 285-288 (1960). In Japanese (English summary). Through BCIRA 40: 2352 (1960). (3640)

A modified Du Nouy Tensimeter, in which a supporter dish is replaced by a chuck and the diameter of piano wire is increased up to 1.2 mm, is used.

STUDIES ON THE STIFFNESS OF SILK FIBERS. PART 4. METHOD FOR COMPARING THE RESISTANCE TO ELONGATION OF TWO FIBERS. H. Takagi. J. Soc. Textile Cellulose Inds. Japan 16, No. 4: 281-284 (1960). In Japanese (English summary). Through BCIRA 40: 2348 (1960). (3641)

A method of test and apparatus have been devised and are assessed in relation to work on raw silk.

NEW COTTON TRASHMETER. H. R. Smith (U.S. Dept. Agri.). Textile Inds. 124: 133-138 (Aug. 1960). (3642)

The Outlook Trashmeter described is basically an optical-mechanical scanner which measures the amount of trash on the surface area of cotton samples. Results are indicated on two meters that are located on the top of the machine at the back. One meter indicates the fraction of the total area of a sample surface occupied by the dark areas of trash, and the other gives an indication of the relative number of particles. Comparative measurements made on several hundred spinning test lots with the Outlook Trashmeter and Shirley Analyzer indicate that the Trashmeter measurements provide a sharper distinction between grades than measurements made on the Shirley Analyzer, for there seems to be less overlap between grades as measured on the Trashmeter than for those measured with the Shirley Analyzer. Photos, graphs, tables, 2 refs.

Yarns E2

SETTING UP OF INDICATIVE VALUES IN USTER TESTS FOR VISCOSE RAYON STAPLE AND SYNTHETIC FIBER YARNS SPUN BY THE COTTON SPINNING METHOD. H. Beck. Melliand Textilber. 41, No. 4: 385-389 (1960). In German. Through BCIRA 40: 2355 (1960). (3643)

Calculation and classification of Index I values (Index I being the quotient of U_{eff} = measured irregularity and U_{lim} = theoretical or limiting irregularity) are discussed with reference to viscose rayon staple and synthetic fibers as well as their blends (for the latter, $I = CV_{eff}/CV_{lim}$, where CV_{eff} and CV_{lim} are the measured and theoretical variation coefficients, respectively). Effects of denier, staple, crimp, dyeing, and material on the determination of these values are discussed, and tables are given listing the I values for the quality assessment of various fiber yarns.

ELECTRONIC SLUB COUNTER: QUALITESTER. H. J. Vogt. Melliand 41, No. 3: 184-190 (1960). (3644)

The Qualitester is an electronic yarn testing apparatus which measures, records, and differentiates between abnormal deviations of mass and normal ones. An electronic computer automatically divides all neps, husks, seeds, spinning faults, dust, and other impurities into 4 classes, according to the size and importance of these faults; it counts them and, if required, it cuts them out. The span of the normal distribution of mass, which is a measure of the evenness, can be progressively registered by means of a recording instrument. Diagrs, graphs, photos.

DIRECT METHOD FOR MEASURING YARN DIAMETERS AND BULK DENSITIES UNDER CONDITIONS OF THREAD FLATTENING. A. Barella. Reply: J. B. Hamilton. (Letters to the editor). J. Textile Inst. 51: T293-T294 (July 1960). (3645)

STIFFNESS TEST FOR THREADS, TWINES. E. N. Ditton. Modern Textiles Mag. 41: 34 (Aug. 1960). (3646)

A simple, reliable, and practical method of testing thread and twine stiffness, which has been proven to exhibit good repeatability in actual use, is described. Diagr.

Fabrics E3

DIFFERENTIAL THERMAL ANALYSIS OF TEXTILE AND OTHER HIGH POLYMERIC MATERIALS. R. F. Schwenker, Jr. and L. R. Beck, Jr. (Textile Research Inst.). (Letter to the editor). Textile Research J. 30: 624-626 (Aug. 1960). (3647)

Data are presented to indicate that differential thermal analysis (DTA) may be a powerful technique for mechanism studies, as well as a means for the characterization of textile materials and evaluation of the thermal stability of textile fibers and fabrics. The study of the degradation reactions at high temperatures in textile fibers represents a new application of DTA. When used in conjunction with pyrolysis studies and thermogravimetric analysis, it is expected that many of the reactions and reaction mechanisms involved in the thermal decomposition of high polymers will be clarified. Graphs, 19 refs.

MICROSCOPIC EXAMINATION OF DAMAGES IN WOVEN AND KNIT FABRICS BY MEANS OF INCIDENT LIGHT, TRANSMITTED LIGHT, AND SURFACE REPLICA METHOD WITH GELATIN PLATES. N. Bigler. SVF Fachorgan Textilveredlung 15, No. 4: 251-259 (1960). In German. Through BCIRA 40: 2499 (1960). (3648)

The methods are illustrated by photomicrographs, the principles of the replica method and the preparation of gelatin plates being described in greater detail.

CLOTH TEARING STRENGTH. LITERATURE SURVEY. B. Edberg, L. Sonnerup, and T. Eeg-Olofsson. Medd. TEFO No. 5: 1-20 (1960). In Swedish. Through BCIRA 40: 2497 (1960). (3649)

This survey is in two parts: the first listing in classified form the more important references, the second describing different test methods.

STUDY OF THE AATCC ACCELEROTOR WHILE OPERATING AT CONSTANT POWER. H. P. Briar (Dow Chem. Co.). Am. Dyestuff Reptr. 49: 559-564 (Aug. 8, 1960). (3650)

Metering the amount of power applied to a fabric test sample has considerable merit as an additional operational method for the Accelerotor. Complex fabric parameter effects are minimized or eliminated from the test results. As a consequence the interpretation of the results is made much simpler. The method should allow comparison of a wider range of fabric weights and styles without changes in the nature of the abradant or other machine parameters. For purposes of comparisons between treatments on the same fabric, the constant-speed method should be quite valuable since it was shown that results should be independent of any fluctuations in the sample weight. It is felt that the constant-power method of fabric abrasion testing allows a fundamental evaluation of an intrinsic property of fabrics. Graphs, tables, 8 refs.

DETERMINATION OF THE CREASE RECOVERY ANGLE OF CLOTHS WITHOUT SPECIAL APPARATUS. A. Avachian. Industria Textila 11, No. 4: 135-138 (1960). In Rumanian (English summary). Through BCIRA 40: 2495 (1960). (3651)

Results of comparative studies of different methods are reported, and a simple method, based on pressing the sample between glass plates followed by horizontal relaxation and direct reading from graduated paper, is described.

Other E4

ANALYSIS AND TESTING OF PLASTICS. G. C. Ives (Yarsley Testing Labs. Ltd). Fibres and Plastics 21: 205-209 (July 1960). (3652)

Methods for the quantitative determination of the elements, identification of chemical types, and the evaluation of mechanical properties, together with methods for non-destructive testing, thermal and electrical properties, and problems of accelerated aging are reviewed. 24 refs.

PAPER CHROMATOGRAPHY OF WATER INSOLUBLE DYES. J. Sramek. Textil 15, No. 2: 69-72; No. 3: 104-107 (1960). In Czech. Through BCIRA 40: 2506 (1960). (3653)

TENTATIVE STANDARD METHOD FOR THE DETERMINATION OF ELEMENTARY SULFUR AND BRIGHTENING AGENTS ON VISCOSE RAYON STAPLE FIBER. L. Benisek. Textil 15, No. 4: 151-152 (1960). In Czech. Through BCIRA 40: 2484 (1960). (3654)

The elementary sulfur is determined by means of sodium sulfite and the brightening agents are extracted by a benzene-ethanol (65:35) mixture. The methods are described.

QUANTITATIVE DETERMINATION OF SODIUM M-NITROBENZENESULFONATE [LUDIGOL] BY POLAROGRAPHY. F. Peter. Magyar Textiltech 11, No. 5: 199-201 (1959). In Hungarian. Through BCIRA 40: 2504 (1960). (3655)

The method is based on the process of reduction at the dropping mercury cathode; concentrations of 3×10^{-5} to 8×10^{-4} mol/l can be measured. Colloids such as starch, agar, and dextrin influence the form of the polarograms and must be allowed for.

QUANTITATIVE ANALYSIS OF ULTRASOLS. M. Matrka. Textil 15, No. 4: 149-151 (1960). In Czech. Through BCIRA 40: 2507 (1960). (3656)

Methods for the analysis of Ultrasol dyes (corresponding trade names: Azotol A, Naphthol AS, Irganaphthol, Brenthol, etc.) are reviewed. 18 refs.

SIMPLE TEST FOR DETECTING DIFFERENCES AMONG COLOR MATCHERS. K. McLaren (Imp. Chem. Inds. Ltd). (Letter to the editor). J. Soc. Dyers Colourists 76: 434-435 (July 1960). (3657)

Differences in yellowness of color vision are detected by the test. 1 ref.

THE DEVELOPMENT OF A MECHANICAL COLOR-FASTNESS TEST EQUIVALENT TO FIVE AVERAGE HAND WASHINGS. AATCC Comm. on Colorfastness to Washing. Am. Dyestuff Reptr. 49: P533-P535 (July 25, 1960). (3658)

Tentative test method 61-1960 was especially designed for evaluating the washfastness of textiles which are expected to withstand frequent laundering. The color loss resulting from solution and/or abrasive action of five average hand, commercial, or home launderings, with or without chlorine, are closely approximated by one 45 min test. Photo, table.

DETERMINATION OF THE IONIC NATURE OF SURFACE-ACTIVE AGENTS. M. Graliński. Przeglad Wlok. 13, No. 11-12: 596-602 (1959). In Polish. Through BCIRA 40: 1954 (1960). (3659)

The method described is based on the mutual precipitation from aqueous solution of oppositely charged substances and the formation of insoluble, electrically inert precipitates after the mutual neutralization of high-molecular hydrophobic cations and anions. As precipitating agents, surface-active substances of known molecular structure were used as well as suitable dyes of known ionic character. It was found that solutions of the substances tested and of the precipitating agents should have approximately the same concentration to avoid peptization. Best results were obtained by using pure surface-active agents freed from inorganic and organic fillers by extraction of commercial products with 96% ethyl alcohol.

VARIATIONS IN THE ASSESSMENT OF LIGHTFASTNESS EXPOSURES. U. Bülow and S. Horrdin (Boras Wäfveri AB). (Letter to the editor). J. Soc. Dyers Colourists 76: 435 (July 1960). (3660)

TITRIMETRIC DETERMINATION OF ANIONIC DETERGENTS. L. Benisek. Textil 15, No. 3: 101-103 (1960). In Czech. Through BCIRA 40: 2503 (1960). (3661)

Gravimetric, physico-chemical, titrimetric, and colorimetric methods are reviewed, and the titrimetric method based on the use of trypaflavin is described in detail. 18 refs.

DETERMINATION OF THE DISTRIBUTION OF THERMOSETTING RESINS IN FABRICS FROM REGENERATED CELLULOSE AND COTTON BY MEANS OF RADIOACTIVE ISOTOPES. PART 3. H. Enders and R. Zörkendörfer. Melliand Textilber. 41, No. 4: 462-468 (1960). In German. Through BCIRA 40: 2317 (1960). (3662)

Quantitative resin determinations were carried out before and after washing of fabrics finished with C^{14}-labeled ethyleneurea precondensates by measuring the radioactivity and determining the weight losses after washing at boiling temperature. The results are discussed and tabulated. For previous parts see abstr. 921/58 and 638/60.

MILL MANAGEMENT F

Industrial engineering F1

MILL CHECK-UP. PART 7. CHECKING MEN AND MACHINES AT SPINNING. A. L. Landau (Saco-Lowell Shops). Textile World 110: 58-59 (Aug. 1960). (3663)

WHAT TO DO ABOUT THOSE BUSINESS RECORDS? R. G. Frost. Textile World 110: 26-31 (Aug. 1960). (3664)

Steps involved in a record management work audit are described. Photos.

CONDUCTING A MILL TRAINING PROGRAM. PART 2. C. R. Beall. Textile Bull. 86: 54 (Aug. 1960). (3665)

See abstr. 2860/60 for Part 1.

HOW % CV CAN HELP YOU CONTROL PRODUCTION. W. N. Lilly (Cone Mills Corp.). Textile Bull. 86: 57-58 (Aug. 1960). (3666)

Sample calculations showing the use of the coefficient of variation in evaluating test results are given.

IRON TREATMENT OF WASTE WATERS CONTAINING DYES. M. Kehren. Ber. AbwassTechn. Verein. No. 8: 110-119 (1957). Summary in Water Pollution Abstr. 33: 929 (May 1960). (3667)

The author gives a table showing the composition of waste waters from the dyeing of wool and the bleaching and dyeing of cotton and discusses the properties of the various types of dyes used. He then gives the results of investigations into the treatment of aqueous solutions of dyes with metallic iron and iron salts.

PUTTING APPTITUDE TESTS TO WORK. PART 1. HOW SWIFT BEAT ITS LOOMFIXER SHORTAGE. Swift Mfg. Co. Textile World 110: 35-36 (Aug. 1960). (3668)

The selection of trainees by the use of mechanical aptitude tests and the training program used by the Swift Mfg. Co. are described.

PUTTING APTITUDE TESTS TO WORK. PART 2. WHAT YOU SHOULD KNOW ABOUT TESTING. S. H. Blackwell (State Employment Service, Columbus, Ga.). Textile World 110: 36 (Aug. 1960). (3669)

Aptitudes needed by weavers and loomfixers are analyzed and described.

FIGURE UP DOWNTIME. Automation 7: 55, 58 (Aug. 1960). (3670)

Methods of calculating machine efficiency.

Plant and equipment F2

CONTROLLED UTILIZATION OF ENERGY AND HEAT STORAGE IN TEXTILE PLANTS. Textil-Praxis (English ed.) No. 2: 94 (June 1960). (3671)

With the Siemens & Halske electrical compensation regulator described, fluctuations in steam consumption are prevented from affecting turbine efficiency.

UTILIZATION OF SYNTHETIC MATERIALS IN THE TEXTILE INDUSTRY. K. Rath. Melliand 41, No. 3: 172-176 (1960). (3672)

The use of synthetic elastomers and plastics for card clothing, web divider tapes, rubbing "leathers," driving belts, and mule and spindle bands is discussed.

DIAGNOSIS OF TROUBLES IN POLYPHASE MOTORS. Textile Mfr. 86: 257-259 (July 1960). (3673)

Possible causes of trouble can arise from unbalanced voltages, break in motor circuit, overheating due to overload or incorrect voltage, overheating of rotor, etc. The technique for open circuit, short circuit, and earth fault testing is explained. Diagrs, tables.

MAINTENANCE RECORDS SIMPLIFIED. J. H. Boddie (Mount Vernon Mills). Textile Inds. 124: 151, 153 (Aug. 1960). (3674)

USE OF PACKAGE DRIVE UNITS TO PROVIDE D.C. POWER TO THE MILL. D. M. Sibley (Allis-Chalmers Mfg. Co.). Textile Bull. 86: 53 (Aug. 1960). (3675)

TEXTILE MILL MAINTENANCE. PART 6. F. H. Slade. Textile Mfr. 86: 265-268, 270 (July 1960). (3676)

Pointers on the maintenance of the pumps, motors, cylinders, reservoirs, interconnecting piping, ancillary equipment, and control valves embodied in fluid drive systems are given. Photos, diagr.

SCIENCES G

Chemistry G1

PROPERTIES OF TEXTILE MATERIALS. PART 11. CHEMICAL ATTACK OF TEXTILE FIBERS. PART 2. PROTEIN FIBERS: (C) REGENERATED PROTEINS. F. O. Howitt (Wool Inds. Research Assoc.). J. Textile Inst. 51: P321-P325 (July 1960). (3677)

Following a discussion of the protein structure of the regenerated protein fibers which have been made on a commercial scale (casein, groundnut, maize, and soybean fibers) the effects of various chemical reagents on them are reviewed.

REACTIVITY OF THE DISULFIDE BOND IN WOOL. L. J. Wolfram and J. B. Speakman (Leeds Univ.). (Letter to the editor). Nature 187: 595-596 (Aug. 13, 1960). (3678)

ACTION OF TETRAKIS(HYDROXYMETHYL)PHOSPHONIUM CHLORIDE ON WOOL. L. S. Bajpai, C. S. Whewell, and J. M. Woodhouse (Leeds Univ.). (Letter to the editor). Nature 187: 602-603 (Aug. 13, 1960). (3679)

PROPAGATION OF EXCITATION ENERGY IN KERATIN. A. R. Haly (C.S.I.R.O. Wool Research Labs.). Trans. Faraday Soc. 56: 1252-1259 (Aug. 1960). (3680)

Effects of ultraviolet radiation on a wool fiber are found in the near-axis region of the fiber. Calculations from the absorption spectrum of keratin lead one to suppose that this region would be protected by its sheath of protein material. Thus there appears to be transfer of excitation energy over relatively large distances. It is concluded that this transfer cannot be due to electron or proton migration, but may result from (1) diffusion of photochemical products, (2) more direct transfer of excitation energy by means of, for instance, exciton diffusion or sensitized fluorescence. Graphs, tables, 17 refs.

STUDIES ON WOOL. PART 5. PARTIAL HYDROLYSIS IN ACID REDUCING MEDIUM. P. Pigache and G. Biserte. Textile Research J. 30: 612-615 (Aug. 1960). (3681)

The action of dilute sulfuric acid in the presence of a reducing agent such as thioglycollic acid, capable of cleaving the disulfide linkages of the wool, is reported. Graphs, tables, 11 refs.

REACTION OF BROMINE WATER WITH WOOL KERATIN. S. Blackburn (Wool Inds. Research Assoc.). (Letter to the editor). J. Textile Inst. 51: T297-T298 (July 1960). (3682)

SOLUBILIZATION PEGGED AS A KEY TO DETERGENCY. Chem. Eng. News 38: 34-35 (Aug. 29, 1960). (3683)

Effectiveness of surfactants is partly due to their ability to solubilize oily soils.

THE DAMPING OF VIBRATORY MOTION BY SOAP FILMS. E. J. Burcik and R. C. Newman (Pa. State Univ.). (Letter to the editor). J. Colloid Sci. 15: 383-385 (Aug. 1960). (3684)

EXPERIMENTS ON WOOL FROM COPPER-DEFICIENT SHEEP. PART 1. SOME PHYSICAL MEASUREMENTS ON INTACT FIBERS AND EXPERIMENTS ON THE DISSOLUTION AND FRACTIONATION OF OXIDIZED WOOL. R. W. Burley (S. African Council Scientific & Ind. Research). Textile Research J. 30: 473-484 (July 1960). (3685)

It has been confirmed that wool from copper-deficient sheep has a faster rate of extension in water under constant load than normal; it has been found that this wool has a greater diameter swelling in formic acid and is more easily penetrated by certain large reagent molecules than normal. The dissolution in aqueous buffer solutions of copper-deficient and normal wool after oxidation has been examined and further evidence that the copper-deficient wool is deficient in a sulfur-rich protein fraction, whose absence may be responsible for its physical abnormalities, has been obtained. Photomicrographs, graphs, tables, 36 refs.

EXPERIMENTS ON WOOL FROM COPPER-DEFICIENT SHEEP. PART 2. AMINO-ACID COMPOSITION OF OXIDIZED NORMAL AND COPPER-DEFICIENT WOOL FRACTIONS AND FURTHER ATTEMPTS AT FRACTIONATION. R. W. Burley and F. W. A. Horden. Textile Research J. 30: 484-489 (July 1960). (3686)

The amino-acid compositions of oxidized normal and copper-deficient wool from one sheep and of two components separated from them at pH 6 have been measured by ion-exchange chromatography. The differences between the "soluble" and "insoluble" components are those expected from previous work. The "insoluble" components from normal and copper-deficient wool appear to be identical, although there is a small difference in the "soluble" components. Attempts at fractionating the "soluble" components by chromatography, paper electrophoresis, and dialysis gave indications of heterogeneity but were not very successful. Graph, tables, 15 refs.

Physics G2

A REVIEW OF HEAT TRANSFER LITERATURE 1959. E. R. G. Eckert and others. Mech. Eng. 82: 47-61 (Aug. 1960). (3687)

ULTRAVIOLET LIGHT AND CONDUCTION IN KERATIN. J. E. Algie and A. R. Haly (C.S.I.R.O. Wool Research Labs.). (Letter to the editor). Textile Research J. 30: 627 (Aug. 1960). (3688)

In connection with a study of the effect of ultraviolet light on keratin it was found that radiation in the wave length range 2400-4000 Å had no observable effect on the electrical conductivity. 4 refs.

WATER FLOW IN PARTIALLY SATURATED FIBER BEDS. J. Parker (Beloit Iron Works). Tappi 43: 149A-153A (June 1960). (3689)

Capillary-held free water flow in partially saturated fibrous media and its practical implications in suction dewatering and hot surface drying of fiber beds are discussed. Physical and analytical descriptions of the changing geometry of the capillary-held water in fibrous media as they are dewatered are presented. These descriptions are followed by a quantitative concept of liquid permeability in saturated porous media, and the adaptation of this concept to partially saturated systems. Diagrs, graphs.

Biology G3

BIOLOGICAL CHEMISTRY OF CELLULOSE. J. A. Gascoigne (Brit. Rayon Research Assoc.). Dyer 124: 38 (July 1, 1960). (3690)

The breakdown and synthesis of cellulose in nature by enzymes and processes by which bacterial and enzymic actions may be retarded are briefly discussed.

MISCELLANY H

RELATIONSHIP BETWEEN RAW MATERIALS AND THEIR USES IN THE TEXTILE INDUSTRY. H. L. Röder. Ann. Sci. Textiles Belges No. 4: 7-31 (Dec. 1959). In French. Through BCIRA 40: 1920 (1960). (3691)

In this study, the author discusses the fields of application of textile materials; the textile raw materials; their form and properties; properties of the end-products; economic application research; introduction of an article (marketing, merchandising, sales promotion); quality control and labeling; structure of the textile industry; measurement of the properties of the raw materials and end-products.

BOOKS ABOUT TEXTILES: CLASSIFIED LIST OF RECENTLY PUBLISHED LITERATURE. A. F. Kertess. Dyer 124: 169-172 (July 29, 1960). (3692)

TEXTILE TERMS AND DEFINITIONS. J. Textile Inst. 51: P354-P356 (July 1960). (3693)

A number of tentative terms are presented.

SELECTED DATA ON WOMEN'S ATTITUDES TOWARD COTTON AND OTHER FIBERS IN CLOTHING. M. Weidenhamer. U. S. Agri. Mktg. Serv., Washington 25, D. C. June 1960. 15 p. AMS 378. Free. (3694)

This preliminary report presents some of the major findings from a study covering women's use of and attitudes toward cotton and other fibers in dresses, blouses, skirts and suits, slips, and rainwear.

AMERICAN TEXTILE MACHINERY ASSOCIATION EXHIBIT. Textile Recorder 78: 65-68 (July 1960). Modern Textiles Mag. 41: 27, 30, 40-46, 58-60 (July 1960). Textile Bull. 86: 29-59 (July 1960). Textile Inds. 124: 87-98 (July 1960). Textile World 110: 46-60 (July 1960). Can. Textile J. 77: 49-52, 55-56 (June 24, 1960). (3695)

BYSSINOSIS IN COTTON WORKERS. L. Muller (Industries Medical Service, Enschede, Holland). J. Textile Inst. 51: P345-P347 (July 1960). (3696)

Results of an investigation into the reasons for the high incidence of byssinosis principally in the cardroom are reported. (Summary of article appearing in full in July issues of De Tex and Revue Textilis.)

INTERNATIONAL WORK ON TEXTILE STANDARDS. A. W. Bayes. J. Textile Inst. 51: P348-P353 (July 1960). (3697)

Report of the London Conference of ISO/TC38, May 19-27, 1960.

PATENT CHECKLIST

U.S. patents may be obtained from the U.S. Patent Office, Washington 25, D.C., for 25¢ a copy. Photostatic copies of foreign patents are also available. Charges for these photostats are based on the number of pages in the patent.

FIBERS A

Manmade fibers A2

POLYESTER FIBERS OF IMPROVED DYEABILITY WITH METALIZED DYES. J. R. Caldwell and R. Gilkey (to Eastman Kodak Co.). USP 2 945 010, July 12, 1960. (3698)

Aromatic amines are introduced into the polyester prior to spinning and the spun fiber is treated with a mordant salt.

POLYAMIDE FIBERS FROM OXAMIC ACIDS. J. R. Caldwell and R. Gilkey (to Eastman Kodak Co.). USP 2 945 011, July 12, 1960. (3699)

Readily dyeable, water-insoluble nylon fibers melting above 200° C are claimed.

CRIMPED TOW BALING METHOD AND APPARATUS. E. G. Guenther and J. W. Smith (to Eastman Kodak Co.). USP 2 947 241 and 2 947 242, Aug. 2, 1960. (3700)

The tow is packaged under zero tension into a square prism package so that there is no change in crimp and the tow can be withdrawn at low tension without tangling.

YARN PRODUCTION B

LUBRICANT FOR HEAT TREATING FILAMENTS AND FIBERS. K. E. MacCormack (to Imp. Chem. Inds. Ltd). BP 833 450, Apr. 27, 1960. Through BCIRA 40: 2214 (1960). (3701)

In processes in which manmade filaments and yarns (e.g. Terylene) are run over hot metal surfaces (above 140° C) use is made as lubricant of an aqueous solution containing up to 20% of a polyethylene oxide condensate and up to 10% of an antistatic agent, with soap as boundary lubricant, and alkali to give pH 8-9.

MULTIPLE DRAWING PROCESS FOR CONVERSION OF TOW TO STAPLE SLIVER. J. L. Lohrke, Jr. USP 2 941 259, June 21, 1960. (3702)

CRIMPING APPARATUS FOR SYNTHETIC FILAMENTS. H. Freiberger (to Elwood Research Co.). USP 2 945 282, July 19, 1960. (3703)

Heated filaments are vibrated while passing through a guide means and immediately afterwards cooled to set the crimp.

THREAD STORAGE AND ADVANCING DEVICE FOR LIQUID TREATMENT OF FILAMENTARY MATERIALS. G. M. Moelter (to Celanese Corp.). USP 2 947 595, Aug. 2, 1960. (3704)

FALSE TWIST CRIMPING MACHINE. E. P. R. Scragg and A. Dobson (to Ernest Scragg & Sons Ltd). USP 2 946 177, July 26, 1960. (3705)

Yarn feed device which automatically moves the yarn out of the heating zone when the false twist unit is moved away from the belt and spindle rotation ceases.

Opening, picking, fiber preparation B1

HOPPER FEEDER. B. Bisinger. BP 831 521, Mar. 30, 1960. Through BCIRA 40: 2230 (1960). (3706)

The outlet passage down which the opened fiber falls is made in two parts, and the lower part is suspended from springs and made to vibrate so as to concentrate the fiber and ease its passage. The rollers and horizontal lattice that feed fiber to the upwards-traveling spiked lattice are driven through variable-speed gear regulated by a feeler plate to maintain a constant amount of fiber on the upward run of the lattice. One wall of the upper part of the outlet passage, below the roller that strips the spiked lattice, is made of a curved sheet of transparent material that guides the falling fiber towards the center of the passage and permits its observation.

BALE OPENING AND BLENDING APPARATUS. W. F. Leineweber, Jr. and J. C. Whitehurst (to James Hunter Inc.). USP 2 938 239, May 31, 1960. (3707)

Apparatus for automatically removing small tufts of fibers from each of several bales for blending with one another.

Carding and combing B2

CARDING MACHINES. W. Nutter and S. Jones (to T. M. M. (Research) Ltd). BP 832 803, Apr. 13, 1960. Through BCIRA 40: 2231 (1960). (3708)

The conventional mote knives for a cotton card are replaced by a stationary assembly of rows of wire teeth.

COMBINED COTTON CARDING AND COMBING MACHINE. J. Wallwork. BP 834 327, May 4, 1960. Through BCIRA 40: 2430 (1960). (3709)

The machine includes carding and combing sections. In the latter the cotton fleece is delivered from a preparatory box to a laminating box that comprises a feed roller and nippers and a pair of rollers, by which the fleece is drawn without combing and a detached section is laid as a sheet on a preceding sheet, the staggering of the superposed sheets being equal to the amount of delivery from the box at each cycle to a laminating combing box.

Drawing and roving B3

APRON DRAFTING DEVICE. A. Schiltknecht (to J. J. Rieter & Cie AG). BP 832 602, Apr. 13, 1960. Through BCIRA 40: 2233 (1960). (3710)

In order to reduce the friction of the apron against its guide bar, the contacting surface is coated with polytetrafluoroethylene plastic.

DOUBLE APRON DRAFTING ARRANGEMENT. A. Schiltknecht (to J. J. Rieter & Cie AG). BP 832 603, Apr. 13, 1960. Through BCIRA 40: 2234 (1960). (3711)

A resilient bridge having a convex surface is fitted inside the lower apron to support the upper run that makes contact with the upper apron. Eccentrics on shafts are used to support the bridge so that the curvature can be adjusted by turning the shafts.

SLIVER DRAFTING APPARATUS. D. A. Bossen and G. W. Barnett (to Industrial Nucleonics Corp.). USP 2 942 303, June 28, 1960. (3712)

The weight per unit length is automatically controlled by means of a nuclear radiation gage.

GILL BOX. M. Hoppner, A. Schussler, and E. Schafer (to VEB Spinnereimaschinenbau). USP 2 946 097, July 26, 1960. (3713)

The gill bars are linked to endless chains and can be turned with respect to the chains by means of controlled cranks.

FALLER GUIDE FOR GILL BOXES. R. Gärtner (to Deutscher Spinnereimaschinenbau Ingolstadt Niederlassung der Schubert & Salzer Maschinenfabrik AG). USP 2 947 037, Aug. 2, 1960. (3714)

The faller bars are accelerated and decelerated continuously and without impact by means of an accelerating cam and a retarding or braking cam over their entire vertical path.

Spinning, winding, twisting B4

SPINNING AND TWISTING MACHINES. H. A. Boyd and M. Warnock (to J. & T. Boyd Ltd). BP 831 485, Mar. 30, 1960. Through BCIRA 40: 2239 (1960). (3715)

The invention is concerned with simplification of the lifting and traversing mechanism for ring and lappet rails so as to reduce friction between the guiding surfaces. A single horizontal traversing element extends the length of the machine, a cradle for the ring bar is mounted between slides above the traversing element, a second cradle for the lappet rails is mounted between slides above the first and the two cradles are connected, at the points of balance of the ring bar lappet rail respectively, to the traversing element by bands or chains.

TWISTING OF CONTINUOUS FILAMENT YARNS. R. G. C. Arridge, G. A. Clough, and M. W. Pell (to Brit. Nylon Spinners Ltd). USP 2 947 136, Aug. 2, 1960. (3716)

Loop formation is prevented in low twist multifilament yarns by inserting a false twist in the yarn during the ballooning phase.

YARN TENSION DEVICE FOR DOUBLING MACHINE. NV Onderzoekingsinst. Research. BP 831 778, Mar. 30, 1960. Summary in BCIRA 40: 2244 (1960). (3717)

STOP MOTION FOR DOUBLING MACHINES. H. Barlow (to J. Barlow & Co. (Nottingham) Ltd). BP 831 997, Apr. 6, 1960. Through BCIRA 40: 2246 (1960). (3718)

A cutter controlled by an electromagnet is actuated when one end fails (as sensed by a trip wire) and severs the other end.

TRAVELER FOR RING SPINNING AND DOUBLING FRAMES. Otra Ringläufer GmbH. BP 832 074, Apr. 6, 1960. Through BCIRA 40: 2237 (1960). (3719)

A traveler for use with asbestos, glass fiber, and coarse counts is of the common C-shape in profile but is formed at the top knuckle part with a semicircular open channel that serves as a guide for the yarn. One or other half-section of the channel receives the yarn according to the direction of travel.

BOBBINS. M. Scaglia SpA. BP 832 234, Apr. 6, 1960. Through BCIRA 40: 2270 (1960). (3720)

The tubular core is narrowed into a groove near each end for the reception of the flanges, which are held tight by the insertion of resilient plugs (e.g. of fiber) into the open ends of the core.

STOP MOTION FOR DOUBLING MACHINES. J. B. Brierley. BP 832 265, Apr. 6, 1960. Through BCIRA 40: 2245 (1960). (3721)

Each single yarn has a guide and there is a movable guide before the double yarn reaches a pivoted detector. If only one single yarn fails the movable guide is pulled to one side of its normal position so that the intact yarn takes a path that leads it away from the detector.

DEVICE FOR SUPPLYING TRAVELERS TO THE RINGS OF SPINNING OR DOUBLING MACHINES. Otra Ringläufer GmbH. BP 832 267, Apr. 6, 1960. Through BCIRA 40: 2238 (1960). (3722)

The device has a pair of gripper arms or handles pivoted together and spread apart by a spring. One arm has a recess that fits the ring, the other a presser member for forcing a traveler on to the ring. Transversely of the gripper arms is a tubular storage device for storing travelers.

SPINNING OF TEXTILE YARNS. A. R. Armitage (to Armitage & Rigby Ltd). BP 832 616, Apr. 13, 1960. Through BCIRA 40: 2235 (1960). (3723)

The claims are for the automatic production of a ring yarn that varies in both count and twist according to a prearranged scheme. The variations are introduced by changing at least two of the following: spindle speed, front roller speed, and back roller speed. Preferably, the spindle speed is constant (a constant speed motor being used) and variable-speed motors controlled by preset potentiometers are used to drive the drafting rollers. The selection of the operative potentiometer is by means of relays controlled by a punched or magnetic tape.

HIGH SPEED BOBBIN CHUCK. N. C. Wyeth (to E. I. du Pont de Nemours & Co.). USP 2 941 735, June 21, 1960. (3724)

SPINNING OR TWISTING FRAME STOP MOTION. A. W. Edwards (to Ferranti Ltd). BP 832 351, Apr. 6, 1960. Through BCIRA 40: 2241 (1960). (3725)

The invention relates to a device for stopping the feed to a high-speed spindle if a yarn fails without disturbing the feed to the other spindles on the frame. At least one of the upper feed rollers is carried in a floating frame provided with a brake pad that can be held against a loose sleeve on a lower roller. If the yarn fails a lever is tripped and the floating frame applies its brake pad to the lower sleeve.

FLYER PRESSERS FOR SPINNING AND TWISTING MACHINES. H. Scowcroft (to T. M. M. (Research) Ltd). BP 832 780, Apr. 13, 1960. Through BCIRA 40: 2232 (1960). (3726)

The pressure on the roving is increased to prevent the ratching that sometimes occurs in the spinning of short-staple material into large packages. The paddle at the end of the presser arm is of the known type with two guide holes through which the roving is threaded, but it is set at about 90° to the remote end of the arm and thus keeps clear of the surface of the package.

HOLDING DOWN MEANS FOR SPINNING AND TWISTING SPINDLES. Zinser Textilmaschinen GmbH. BP 832 947, Apr. 21, 1960. Through BCIRA 40: 2236 (1960). (3727)

A device for preventing the inadvertent lifting of the upper part of a spindle during doffing consists of a sleeve made of elastic material, e.g. rubber, which is fixed on the lower part of the spindle and engages over the top of a flange or collar on the wharve.

SUCTION TUBE MOUNTING IN SPINNING MACHINES. Thoma Co. GmbH. BP 833 080, Apr. 21, 1960. Through BCIRA 40: 2243 (1960). (3728)

A suction tube for catching broken ends is mounted parallel to the drafting rollers by means of a stud at each end that engage in arcuate slots in mounting members on the framework of the machine. The tube can thus be moved from the operative to a lower and rear inoperative position. A spring holds the tube in the operative position.

RING RAIL GUIDE DEVICE IN SPINNING MACHINES. L. Vella (Italy). BP 834 163, May 4, 1960. Through BCIRA 40: 2431 (1960). (3729)

The inventors claim to make it possible to use larger rings and to reduce the power required for moving the ring rail. The lifter rod, its guide, and the members for fastening the ring rail are offset from the spindles. The lifter rod slides in a support through the intermediary of at least two spherical bodies that roll loosely in grooves between the rod and the support, and take the lateral thrusts on the rod caused by the offset load.

REVERSIBLE SPINDLE DRIVE. E. Hamel (Switzerland). USP 2 946 178, July 26, 1960. (3730)

A pivotally mounted vertical arm which controls a horizontally mounted bell crank lever is used instead of the usual gear transmission to change the direction of rotation of the spindles. The bell crank lever actuates and controls a pole reversing switch which controls the direction of rotation of the main drive shaft motor.

STOP MOTIONS FOR YARN TWISTING MACHINES. E. Hamel (Germany). BP 834 179, May 4, 1960. Through BCIRA 40: 2432 (1960). (3731)

The invention relates to means for moving an upper roll out of contact with a lower, driven roll if yarn failure occurs. The upper roll is carried on horizontal bearings and kept in contact with the lower roll by yarn that passes over an unbalanced segment-like pivoted member and the upper roll and then through a double guide eye before it enters the nip of the two rolls. If the yarn fails, the pivoted member is tripped and moves the upper roll along its bearings and out of contact with the lower roll.

HEAT CONTROL EXHAUST SYSTEM FOR SPINNING ROOMS. A. H. Bahnson, Jr. (to Wachovia Bank & Trust Co.). USP 2 946 173, July 26, 1960. (3732)

Heated air concentrated at the motor alley by the heat given off by the drive motors and the discharge air from vacuum collection systems is dispersed and discharged by distributing it along the frames for flow in an upward direction to oppose the downward flow of cooler, moist air. This arrangement enables a higher overall level of humidity to be maintained in the spinning room for evaporative cooling without exceeding the permissible humidity level along the work zone.

AUTOMATIC APPARATUS FOR DOFFING LINT COLLECTION CHAMBERS. A. H. Bahnson, Jr. (to Wachovia Bank & Trust Co.). USP 2 946 174, July 26, 1960. (3733)

Automatic system for periodically doffing filter boxes of a pneumatic system for collecting and removing broken ends and lint from spinning frames and for conveying the lint back to the picker room for reprocessing.

TWISTING ARRANGEMENT FOR PLY YARNS. E. J. Wright (to Deering Milliken Research Corp.). USP 2 946 175, July 26, 1960. (3734)

Apparatus for producing in one continuous operation a cord of a particular twist from singles strands of either the same or different twists.

TWIST BLOCK FOR CARPET YARN UPTWISTERS. F. Higgins (to James Lees & Sons Co.). USP 2 946 176, July 26, 1960. (3735)

OIL CUSHION BRAKE SPINDLE RING INSERT. Y. Kodama (to Nihon Spindle Seizo KK). USP 2 946 179, July 26, 1960. (3736)

CONTINUOUS METHOD FOR WINDING EXTRUDED SYNTHETIC FILAMENTS. K. Kuroiwa and K. Sone (to Toyo Rayon Co. Ltd). USP 2 946 526, July 26, 1960. (3737)

SPRING MECHANISM FOR SUSPENSION TYPE BOBBIN HOLDER. A. H. Bahnson, Jr. (to Wachovia Bank & Trust Co.). USP 2 946 537, July 26, 1960. (3738)

UPPER DRAFTING ROLL SUPPORT FOR SPINNING MACHINES. R. Rulon-Miller and W. H. Tabor (to Dixon Corp.). USP 2 947 039, Aug. 2, 1960. (3739)

Each top roll is free of end trunnions and is mounted in oilless bearings at its midpoint by means of a saddle.

LATCH ROTATING MECHANISM FOR SUSPENSION TYPE BOBBIN HOLDER. W. W. Hewitt (to Parks-Cramer Co.). USP 2 946 538, July 26, 1960. (3740)

SINGLE APRON DRAFTING DEVICE FOR SPINNING MACHINERY. J. Pfenningsberg (to Josef Pfenningsberg & Co.). USP 2 947 038, Aug. 2, 1960. (3741)

Tensioning system for upper drafting apron which automatically adjusts itself to the kind, amount, and length of the fiber being drafted.

Yarns B5

CRIMPING APPARATUS FOR SYNTHETIC CONTINUOUS FILAMENT YARNS. Textura AG. BP 831 343, Mar. 30, 1960. Through BCIRA 40: 2248 (1960). (3742)

The apparatus consists of a pair of squeeze rollers that rotate in opposite directions and are pressed together sideways by spring mechanism and a set of thin V-shaped parallel plates that dip down into the nip of the rollers and present a series of slots into which the yarns are leased. Stopping blocks are provided in alternate slots. A set of static eliminators is also provided to dispel any charge that the yarns might generate on passing between the rollers. The yarns go vertically downwards through the nip into a confined space. When this is filled with the crimped yarn the latter is automatically discharged into a container and passed to a hot setting oven.

FALSE TWISTING APPARATUS FOR THE MANUFACTURE OF CURLED THERMOPLASTIC THREADS. NV Onderzoekingsinst. Research. BP 831 549, Mar. 30, 1960. Through BCIRA 40: 2247 (1960). (3743)

To provide a bearing for the spindle of the false twist tube at the necessary high speeds, the spindle is pressed by means of a driving belt into two or more throats each formed by a number of discs that rotate freely around different shafts.

NOVELTY TEXTILE YARNS. L. B. Gibbins and R. H. J. Riley (to Brit. Celanese Ltd). BP 831 605, Mar. 30, 1960. Through BCIRA 40: 2251 (1960). (3744)

The yarns are of mixtures of continuous filaments, some finer and at least twice as numerous as the others. Any pair of filaments, considered alone, are twisted together in the same direction and to the same extent as any other pair, considered alone. In the first of 5 examples, cellulose acetate is extruded through a jet having 15 circular orifices of 0.06 mm diameter and 5 rectangular slots, 0.2 mm x 0.04 mm and the yarn is drawn to a total denier of 100, thus giving a yarn with fine, round filaments and coarser, flat filaments with bulbous ends.

PACKAGE SHIELD FOR SPINNING, DOUBLING, TWISTING, AND COP WINDING MACHINES. E. Bates (to Prince-Smith & Stells Ltd). BP 832 284, Apr. 6, 1960. Through BCIRA 40: 2242 (1960). (3745)

A bellows-like shield is attached to the underside of the ring rail. As the chase traverses the spindle or bobbin and the winding point moves up, the shield automatically extends and encloses the completed part of the package.

YARN CAKE STRIPPING MECHANISM. G. H. Clem and W. M. Ickes (to Am. Viscose Corp.). USP 2 947 491, Aug. 2, 1960. (3746)

BULKING OF YARNS. J. Tunnicliffe (to G. H. Heath & Co. Ltd). BP 832 363, Apr. 6, 1960. Through BCIRA 40: 2250 (1960). (3747)

Multifilament, thermoplastic yarn is forwarded under low tension (not more than 3 g) over stainless steel surfaces (e.g. circular rods) heated nearly to the melting point of the yarn, under such conditions that some filaments shrink and the others develop loops.

METHOD FOR PRODUCING A BULKY YARN. Algemene Kunstzijde Unie NV. BP 833 843, May 4, 1960. Through BCIRA 40: 2433 (1960). (3748)

Freshly-spun viscose filament yarn is twisted and fed at an angle into constricted tube through which a stream of compressed air is passed. On emerging from the confined zone the yarn is deflected to a takeup device. The core of the yarn remains rather compact but the outer layers consist of entangled loops.

SHIPPING CARTON FOR WOUND YARN. H. M. Browning and B. R. Hammock (to E. I. du Pont de Nemours & Co.). USP 2 938 625, May 31, 1960. (3749)

APPARATUS FOR PRODUCING BULK YARN. C. W. Palm (to Celanese Corp.). USP 2 942 402, June 28, 1960. (3750)

Continuous filament yarn is subjected to the action of a high velocity air jet to form loops projecting from the main body of the yarn.

COMPOSITE LAMINATED PIRN OR BOBBIN. T. G. Crawford and J. K. Allen (to Westinghouse Elec. Corp.). USP 2 945 638, July 19, 1960. (3751)

The tube consists of an inner layer of epoxide resin-impregnated glass fibers and an outer layer of phenolic resin-impregnated paper.

FABRIC PRODUCTION C

Warping, slashing, yarn preparation C1

YARN GUIDE TRAVERSE MECHANISM FOR BOBBIN WINDING MACHINES. Geoffrey-Delore SA. BP 831 659, Mar. 30, 1960. Through BCIRA 40: 2268 (1960). (3752)

The mechanism comprises a member on the thread guide shaft to which is pivoted a disc in which is a ring with frusto-conical internal profile that makes point engagement with the shaft and translates its rotation into reciprocation of the thread guide. The disc can be set at various inclinations to the shaft for various traverse speeds and the direction of traverse is instantaneously reversed as the ring tilts over from one sense to the opposite and actuates an electromagnetic reversing device.

KNOTTING DEVICE. Zellweger Ltd and Factories for Apparatus & Machines Uster. BP 832 261, Apr. 6, 1960. Through BCIRA 40: 2272 (1960). (3753)

The threads to be tied (especially of synthetic filaments) are jointly given a full turn around a mandrel and the ends are then passed one and a half times around the mandrel and drawn through the first loop. The knot is tightened by pulling out the thread ends.

STOP MOTION MECHANISM FOR HIGH SPEED WINDING MACHINES. E. Brierley (to Thomas Holt Ltd). BP 831 945, Apr. 6, 1960. Through BCIRA 40: 2269 (1960). (3754)

Stop motion in which the detector is of the tiltable wire type but is so designed that, if a yarn breaks close to the nip between the package and the driving drum, the loose end cannot be taken up by the package. Once the wire has been released, the stop motion is instantaneously and positively operated.

BALLOON CONTROL IN COP UNWINDING. W. Reiners (Germany). BP 831 952, Apr. 6, 1960. Through BCIRA 40: 2267 (1960). (3755)

The 40 claims relate to means for preventing ballooning of the yarn in over-end unwinding of stationary cops. Essentially, a force is applied (by means of a gas current) to the yarn periodically, with a frequency proportional to the speed of rotation, at or near the region where a balloon is likely to form.

WARP BEAMING MACHINE. I. Bloomer (to Carrier Eng. Co. Ltd). BP 833 554, Apr. 27, 1960. Through BCIRA 40: 2273 (1960). (3756)

At winding speeds of 1,000 yd/min the sleeve of air carried by the yarn collects loose fluff and dust. The invention claims to prevent this by producing an updraft across the sheet of yarn in the neighborhood of the comb (e.g. by means of a perforated blower tube) and collecting the fluff and dust blown up (e.g. by means of an exhaust hood).

DOUBLE-FLANGED YARN BOBBINS. F. Ridgway (to Arundel, Coulthard & Co. Ltd). BP 834 064, May 4, 1960. Through BCIRA 40: 2440 (1960). (3757)

The bobbin consists of a plain metal tube and two metal flanges that can slide along the tube but are held at each end of the tube by a circlip that fits into a shallow groove around the tube and a recess in the flange.

WARP BEAMS. W. Grob (Switzerland). BP 834 193, May 4, 1960. (Addition to BP 794 533). Through BCIRA 40: 2441 (1960). (3758)

The tubular part of the warp beam with screw-threaded flanges claimed in the parent invention is roughened by sand-blasting to assist in the even distribution of the warp ends.

APPARATUS FOR SIMULTANEOUSLY WINDING A PLURALITY OF THREADS ON A SINGLE BOBBIN. W. Lenk (to Barmer Maschinenfabrik AG). USP 2 945 636, July 19, 1960. (3759)

Threads of uniform length and tension are wound by use of a roller with individual guide channels for each thread.

BOBBIN REPLENISHING MECHANISM FOR WEFT WINDING MACHINES. C. V. Hinton (to Terrell Mach. Co.). USP 2 946 467, July 26, 1960. (3760)

Apparatus for maintaining a reserve supply of bobbins at each of a series of automatic winding machines.

CATIONIC STARCH AMINE DERIVATIVES FOR WARP SIZING. H. C. Olsen (to Nat. Starch & Chem. Corp.). USP 2 946 705, July 26, 1960. (3761)

HIGH SPEED WINDING COLLET FOR GLASS FIBER STRANDS. R. G. Russell (to Owens-Corning Fiberglas Corp.). USP 2 947 489, Aug. 2, 1960. (3762)

The collet is driven by air jets.

AUTOMATIC SPEED CONTROL SYSTEM FOR WINDING MACHINES. C. J. Gonsalves (to Am. Enka Corp.). USP 2 947 490, Aug. 2, 1960. (3763)

Weaving C2

CARPET LOOMS. A. F. Craig and J. M. McLennan (to A. F. Craig & Co. Ltd). BP 834 055, May 4, 1960. Through BCIRA 40: 2443 (1960). (3764)

Valve-controlled pneumatic clutch and brake for driving and stopping a loom.

MEANS FOR PRESSING COPS ONTO SHUTTLE PEGS. W. V. Watson (to Pin Plush Ltd). BP 834 110, May 4, 1960. Through BCIRA 40: 2444 (1960). (3765)

A cop skewering device consists of a hollow cone integral with a block by which it can be screwed to a convenient part of the loom or other support. The surface of the inside of the cone is formed in shallow steps to provide a grip on the tapered end of the cop. The device may be cast in aluminum alloy.

WEFT YARN TENSIONING DEVICE. H. Held and C. Wagner (Germany). BP 831 419, Mar. 30, 1960. Through BCIRA 40: 2277 (1960). (3766)

The device comprises two adjustably spring-loaded plates that are scored with diagonal grooves on their abutting surfaces so as to urge the weft downwards to a limiting pin while the shuttle is picked. The plates are held in a pair of U-shaped sliding members in a U-shaped housing; this maintains them parallel and increases their stability.

HEDDLE FRAME RETURN MOTION DEVICE. Metapic SA. BP 831 428, Mar. 30, 1960. Through BCIRA 40: 2279 (1960). (3767)

The invention is mainly concerned with wide looms (66 in. and more). Each heddle frame is suspended from a pair of spiral springs and is driven by two mechanisms that move in synchronism and act on the lower part of the frame.

SEMI-ORIENTAL, THREE-POSITION JACQUARD. H. W. Ballard (to James Lees & Sons Co.). USP 2 941 551, June 21, 1960. (3768)

Single index, stationary grate jacquard capable of positioning pile ends to any desired one of three positions and of weaving the pile ends through to the back of the fabric.

GRIPPER TYPE WEFT YARN CARRIER. G. W. Dunham. USP 2 946 353, July 26, 1960. (3769)

In a loom in which the weft yarn is woven into the fabric from separate supply sources at opposite sides of the loom, the weft carrier has a cigar shaped body with yarn grippers located on either end of the carrier for carrying the weft in opposite directions across the loom.

CUT AND LOOP AXMINSTER LOOM. M. W. Worth (to James Lees & Sons Co.). USP 2 946 350, July 26, 1960. (3770)

The loom is provided with an upper and lower comb which cooperate to form uncut loops having their bottom extremities securely tied in to the base fabric.

HEDDLE FRAME MOUNTING FOR HAND LOOM. W. C. Wetherill. USP 2 946 351, July 26, 1960. (3771)

LOOM LETOFF MECHANISM. I. B. McKeown. USP 2 946 352, July 26, 1960. (3772)

Warp letoff which is responsive to the warp tension so that the warp beam is intermittently rotated and the yarn unwound in amounts commensurate with the warp tension.

REED POSITIONING MECHANISM FOR TERRY LOOMS. W. L. McHargue (to West Point Mfg. Co.). USP 2 947 327, Aug. 2, 1960. (3773)

Knitting C3

YARN TENSION DEVICE. B. T. R. Reymes-Cole. BP 833 425, Apr. 27, 1960. Through BCIRA 40: 2271 (1960). (3774)

The invention relates particularly to a device for securing constant tension in a fine yarn (e.g. 15-den. nylon) as it is fed to a knitting machine.

YARN FORWARDING DEVICE. S. A. Monk (to S. A. Monk Ltd). BP 833 711, Apr. 27, 1960. Through BCIRA 40: 2274 (1960). (3775)

The invention relates particularly to a device for feeding the exact amount of yarn required for each motion of the needle of a linking machine.

YARN LENGTH AND TENSION CONTROL MEANS FOR KNITTING MACHINERY. F. H. Lassiter. USP 2 938 365, May 31, 1960. (3776)

METHOD OF MAKING A HEEL POCKET IN CIRCULAR KNIT HOSIERY. B. F. Coile, R. M. Janda, and K. C. Williams (to Textile Mach. Works). USP 2 939 303, June 7, 1960. (3777)

Method of knitting a heel pocket without diagonally extending suture seams, simultaneously with the knitting of an opposite instep portion, on a four feed machine in reciprocating motion with each of the feeds in operation.

METHOD OF KNITTING ARGYLE HOSIERY. N. Levin. USP 2 941 385, June 21, 1960. (3778)

On a four feed circular machine a pair of suture joined fabric areas is knit from a pair of body yarns on an adjacent pair of feeds and a single overplaid yarn is knit at only one of the pair of feeds to form a line of design stitches.

SELF-CLEANING SINKER-TYPE NEEDLE CYLINDER FOR CIRCULAR KNITTING MACHINES. B. Fried. USP 2 945 368, July 19, 1960. (3779)

INTERCONNECTED KNITTED ARTICLES. W. Taylor. USP 2 942 443, June 28, 1960. (3780)

Method of interconnecting continuously knitted articles so that no loose stitches which can be broken during napping project from the outer surface of the articles.

MACHINE AND METHOD OF MAKING WARP KNITTED PILE CARPET FABRICS. W. A. Rice (to Mohasco Inds.). USP 2 944 412 and 2 944 413, July 12, 1960. (3781)

The fabric backing is composed of chains of warp yarns connected by back weft yarns and the pile of heavy weft yarns raised between adjacent chains to form pile loops projecting above the backing. The fabric is made on a raschel-type machine with means for varying the height of pile yarn loops.

RIB KNIT POWER NET FABRIC. W. F. Morancy (to Lawson Prods. Inc.). USP 2 946 210 and 2 946 211, July 26, 1960. (3782)

Power net fabrics with a soft-textured inner face and a stiff-textured outer face, knit on circular machines, and composed of alternating courses of stretch and inelastic yarn are claimed.

Fabrics C4

STRETCHING MACHINES FOR DRYER FELTS. T. Hindle (to Hindle Son & Co. Ltd). BP 831 465, Mar. 30, 1960. Through BCIRA 40: 2340 (1960). (3783)

To eliminate transverse sagging during stretching, a papermakers dryer felt is run as an endless band in festoons around a series of upper and lower rollers, the return run being interleaved in the forward run. The felt is initially wet and is run under tension until dry.

FIBROUS BOTTLE STOPPERS. W. H. Bird, O. S. Plantinga, and J. E. Newsome. BP 831 525, Mar. 30, 1960. Through BCIRA 40: 2281 (1960). (3784)

Lightweight products (3-20 grains/cubic in.) that are compressible, free from protruding and loose fibers, and suitable for use as surgical pads and balls or as stoppers for pill and capsule bottles are claimed. The shaped mass of fiber is sprayed with a solution of a nontoxic binder (e.g. methylcellulose or polyvinyl alcohol) and ironed on a hot plate until dry and smooth.

STUFFING BOX PACKINGS. P. Kind, A. Kind, and R. Radke. BP 832 054, Apr. 6, 1960. Through BCIRA 40: 2282 (1960). (3785)

Loose fiber (asbestos, cotton, viscose staple fiber) is mixed at any stage up to carding with a solid lubricant (graphite, talc + mica, molybdenum disulfide + lead dust) and a binder (acrylonitrile, Neoprene, rubber, polyvinyl acetate), spun into yarn and woven, knitted or plaited into stuffing box fabrics.

GLASS FIBER REINFORCED RESIN ARTICLES. G. A. Stein (to A. O. Smith Corp.). USP 2 939 761, June 7, 1960. (3786)

The glass fibers are pretreated with an active fluoride compound which serves as a catalyst for the polymerization of the resin when the fibers are incorporated in the resin matrix.

COVERING FABRIC FOR TENNIS BALLS. E. Bukalders, H. R. Chadwick, J. Ogden, E. B. Gibson, and G. Greaves (to Slazengers Ltd). BP 832 497, Apr. 13, 1960. Through BCIRA 40: 2285 (1960). (3787)

Fabric woven from cotton warp and a weft composed of crossbred wool (85%) and nylon (15%), the weft predominating on the playing surface which is raised to a long pile, then cropped short and finished by a milling or fulling operation. The nap has a high resistance to wear.

CREPED FABRIC FROM SYNTHETIC FIBERS. Toyo Rayon KK and Sakai Sen-I Kogyo KK. BP 833 491, Apr. 27, 1960. Through BCIRA 40: 2286 (1960). (3788)

Synthetic fiber yarn (e.g. nylon) is highly twisted, heated to set the twist, twisted in the reverse direction beyond the point of zero twist and sized for use as weft, at least. Two yarns with originally opposite twists may be used as weft alternately. The woven fabric is partially desized in a first bath at below 70° C, scoured at a higher temperature (but below the setting temperature of the fiber), stretched to the desired final width, and heated (e.g. in steam at 110-125° C) to set the crepe.

APPARATUS FOR TENSIONING STRIPS OF BINDING MATERIAL IN THE MANUFACTURE OF BELTING. W. W. Spooner (to Spooner Dryer & Eng. Co. Ltd). BP 833 525, Apr. 27, 1960. Through BCIRA 40: 2338 (1960). (3789)

WEAVING NONELASTIC CURTAIN HEADING TAPES WITH HOOK TUBES. J. Stroveis (France). BP 834 120, May 4, 1960. Through BCIRA 40: 2445 (1960). (3790)

The invention relates to means for weaving curtain heading tape with one shuttle on ordinary looms. The tape is claimed to have a satisfactory appearance even when woven from polyester yarns. Two different weaves and sets of heddles are used, one for the ground and the second for the central band of hook tubes. The weft crosses at least one more warp end in the second weave than in the first.

MANUFACTURE OF SYNTHETIC FIBER PAPER. Algemene Kunstzijde Unie NV. BP 834 192, May 4, 1960. Through BCIRA 40: 2447 (1960). (3791)

The invention is concerned with the manufacture of paper from nylon yarn and the like, by the usual pulping process. The special feature is the method by which the fibers are cut to the conventional length of 2-5 mm. A bundle of yarns, about 10 cm thick, is consolidated by being pulled through a somewhat elastic funnel and then wrapped in strips of paper for cutting by a rotary cutter.

LOOP LENGTH CONTROL MECHANISM FOR MULTIPLE NEEDLE TUFTING MACHINE. D. B. Parlin (to Bigelow-Sanford Carpet Co.). USP 2 940 405, June 14, 1960. (3792)

APPARATUS FOR PRODUCING UNIFORM NONWOVEN FIBER FLEECE. G. Fleissner (to Fleissner & Sohn Maschinenfabrik). USP 2 941 264, June 21, 1960. (3793)

The apparatus consists of a needle drum mounted above a conveyer belt for feeding the fibers and a suction drum for drawing the fibers from the belt between the needles of the drum.

METHOD OF MAKING AXMINSTER-TYPE CARPET. H. A. Reinhardt (to Bigelow-Sanford Carpet Co.). USP 2 940 479, June 14, 1960; USP 2 945 511, July 19, 1960. (3794)

The pile tuft, instead of being V-shaped and looped about a holding weft shot, consists of a single leg which extends above the upper face of the backing and is bound into the backing by being passed between adjacent pairs of weft shots and turned at its lower end to underlie a weft shot.

MACHINE FOR THE MANUFACTURE OF PILE ARTICLES. C. Jacquet (to Etab. Giroud Freres). USP 2 940 504, June 14, 1960. (3795)

Machine for cutting fiber bands for manufacture of pile articles by gluing onto a support sheet a layer of fibers of substantially equal length formed by stacking successive transverse bands of erect fibers cut from a sheet of parallelized fibers.

STRETCHABLE CELLULOSE FABRIC-VINYL FILM LAMINATES. J. L. Justice (to Am. Viscose Corp.). USP 2 940 889, June 14, 1960. (3796)

The fabric is strongly adhered to the film by a polyalkylenimine.

SHADOW LINE DEEP PILE DESIGN MATERIAL. W. Mitchell. USP 2 942 326, June 28, 1960. (3797)

The design is formed by an outline formed of filaments or guard hairs disposed above the normal plane of the base fabric.

ZIPPER TAPES. J. E. Burbank (to Cue Fastener, Inc.). USP 2 942 338, June 28, 1960. (3798)

The ease of operation of zipper tapes is improved by repeatedly flexing the stringers while subjecting them to tension, thus tending to rearrange the fibers and threads in the stringer for greater flexibility, denseness, and smoothness.

COMPOSITE FABRIC OF OPEN-MESH WOVEN GLASS FABRIC AND ASBESTOS FIBERS. E. P. Stefl and T. D. Coleman (to Raybestos-Manhattan, Inc.). USP 2 943 010, June 28, 1960. (3799)

Dry carded spinning grade asbestos fibers are applied to one side of an open-mesh glass fabric, and the fabric is compressed to cause the asbestos fibers to fill the meshes of the fabric and to effect interlocking of the asbestos fibers with one another and with the glass yarns.

HIGH LIFT FABRIC FOR LAMINATED LUBRICATOR WICK. R. J. Harkenrider, L. R. Mizell, and J. Berch. USP 2 943 378, July 5, 1960. (3800)

The capillary action of the fabric is controlled and standardized by using a specified twist in spinning the yarn from which the fabric is made.

PAPERMAKER'S FELT. T. R. Foltz, Jr. (to Lockport Felt Co.). USP 2 943 379, July 5, 1960. (3801)

The felt is composed of parallel yarns interlocked by fiber batts needled into the parallel yarns from both sides.

PLASTIC COATED PAINTER'S DROPCLOTH. J. L. Suckle. USP 2 943 380, July 5, 1960. (3802)

MACHINE FOR CROSS STRETCHING NONWOVEN WEBS FOR INCREASED TENSILE STRENGTH. C. Harmon and F. W. Shoemaker (to Chicopee Mfg. Corp.). USP 2 945 283, July 19, 1960. (3803)

SLIP-FREE SYNTHETIC FILAMENT FISH NETS. R. Johnson (to Dominion Textile Co. Ltd). USP 2 945 412, July 19, 1960. (3804)

The netting, while under tension, is impregnated with rosin.

PAPERMAKERS FELT. D. V. Asten and J. G. Schoepf (to Asten-Hill Mfg. Co.). USP 2 947 328, Aug. 2, 1960. (3805)

The warp and filling of the surface ply is spun of a homogeneous blend of asbestos and polyester staple fibers.

FINISHING D

CONTINUOUS BLEACHING OR DYEING OF CELLULOSE FIBERS. G. Whittaker (to Smith & Nephew Textiles Ltd). BP 829 835, Mar. 9, 1960. Through BCIRA 40: 1908 (1960). (3806)

Cotton or viscose rayon in sliver form is wetted with a wetting agent, mangled flat, impregnated with the bleaching or dyeing solution, mangled to a predetermined liquor ratio (preferably 1:1), passed through a heater, piled down in an accumulator (J-box or Gannt piler), given an alkaline boil (for bleaching) or other appropriate treatment, washed and dried.

Chemical processes D1

STILBENE TRIAZOLES AS OPTICAL BRIGHTENING AGENTS. Farbenfabriken Bayer AG. BP 829 788, Mar. 9, 1960. Through BCIRA 40: 1907 (1960). (3807)

The invention relates to the preparation of stilbene disulfonic or dicarboxylic acids in which a triazole ring is attached, through a nitrogen atom, to one of the two benzene rings in the para-position.

NON-SLIP TREATMENT OF YARNS IN NETS. Farbenfabriken Bayer AG. BP 829 918, Mar. 9, 1960. Through BCIRA 40: 1869 (1960). (3808)

To prevent knots in threads of synthetic fibers (polyamide, polyurethane, polyester, polyacrylonitrile) from slipping, the threads are treated with a solution of a diisocyanate and/or polyisocyanate and a di- or polyhydroxy compound, m.w. at least 500, and then heated to about 190° C.

OPTICAL BLEACHING AGENTS. Compagnie Francaise des Matières Colorantes. BP 830 613, Mar. 16, 1960. Through BCIRA 40: 1906 (1960). (3809)

The 15 claims are for the preparation from 4,4'-diaminostilbene-2,2'-disulfonic acid or 4-amino-4'-nitrostilbene-2,2'-disulfonic acid of triazinyl derivatives in which one triazine ring carries the substituent $-N(CH_2 \cdot CO_2M)-$ alkylene-OH.

ROTPROOFING OF CELLULOSE MATERIALS. M. G. Mackeurtan (South Africa). BP 830 347, Mar. 16, 1960. Through BCIRA 40: 1917 (1960). (3810)

The invention relates to means for preserving cellulosic raw material (bagasse, wood pulp) from rotting, and removing some of the incrustants (pectopentosans, lignins). The mass is impregnated with an aqueous liquor of lactic bacteria derived from the raw material itself under conditions in which other microorganisms are overwhelmed, an independent culture of lactic bacteria active in the expected temperature range, and a nutrient. The mass is then stacked, compressed, and stored under conditions such that liquid can drain away, and the temperature is kept below 110° F.

AMIDOPHOSPHORIC ACID DERIVATIVES AS FIREPROOFING AGENTS. Farbenfabriken Bayer AG. BP 830 800, Mar. 23, 1960. Summary in BCIRA 40: 2130 (1960). (3811)

AUTOMATIC REGULATION OF THE CONTINUOUS APPLICATION OF SPECIFIED AMOUNTS OF SOLIDS OR LIQUIDS TO A MOVING SHEET OF MATERIAL. E. H. Jones (to Brit. Cotton Ind. Research Assoc.). BP 830 836, Mar. 23, 1960. Through BCIRA 40: 2129 (1960). (3812)

The invention is concerned with the automatic control of a process in which a substance is fed to a reservoir from which it is applied to a running length of material before this passes between squeezing rollers. The reservoir is balanced, and any fluctuation in its weight caused by a deviation from the prescribed rate of takeup by the sheet is caused to alter the squeezing effect in the appropriate sense. This may be done by geometrical constraint of the bearings for the roller ends or by loading the rollers, through a pneumatic or hydraulic ram, by a lever system or by springs. One illustration relates to the application of a synthetic resin to textile fabric.

COMPOSITION FOR ENHANCING THE WETTING CAPACITY OF MERCERIZING LIQUORS. Ciba Ltd. BP 831 220, Mar. 23, 1960. Through BCIRA 40: 2127 (1960). (3813)

DEVICE FOR THE LIQUID TREATMENT OF FABRICS. H. Brugman (Netherlands). BP 831 245, Mar. 23, 1960. Through BCIRA 40: 2122 (1960). (3814)

Vibrations are set up in a washing or dyeing liquid by means of box-like members with horizontally corrugated front and rear walls.

HIGHLY ALKALINE DICHLORODIMETHYLHYDANTOIN BLEACHING AGENT FOR COMMERCIAL AND HOME LAUNDERING. R. A. Blomfield (to Wyandotte Chemicals Corp.). USP 2 938 764, May 31, 1960. (3815)

The bleaching effectiveness of dichlorodimethylhydantoin is increased by the use of an alkalizing agent in the composition.

COATED GLASS FIBERS. A. Marzocchi and R. F. Caroselli (to Owens-Corning Fiberglas Corp.). USP 2 938 812, May 31, 1960. (3816)

Glass fibers of improved processing and performance characteristics are obtained with a coating of a complex of a titanium ester and a polyvinyl alcohol formed directly on the fibers.

PRODUCTION OF ALKALI-SOLUBLE COTTON TEXTILES. R. M. Reinhardt and J. D. Reid (to U. S. Secy. Agri.). USP 2 938 765, May 31, 1960. (3817)

Alkali-soluble cotton retaining its original textile properties and useful as a supporting foundation during the preparation of open work fabrics is prepared by aminoethylation or carboxymethylation to a low degree of substitution followed by oxidation with a synergistic mixture of two oxidizing reagents.

CONDITIONING POLYESTER FIBERS. J. Hermes (to Martin Processing Co.). USP 2 938 811, May 31, 1960. (3818)

Polyester fibers of improved dyeability and minimized pilling effects are obtained by treating the fibers with polyhydric alcohols at elevated temperatures.

ROTPROOFING CELLULOSE MATERIALS. C. van Bochove and H. J. Hueck (to Neder. Org. voor Toegepast). USP 2 938 815, May 31, 1960. (3819)

The material is treated with an aqueous solution of methylolchloracetamide in the presence of an acid catalyst.

MECHANISM FOR FORWARDING AND PLAITING FABRIC INTO J-BOX STORAGE BIN. H. D. Terhune (to E. I. du Pont de Nemours & Co.). USP 2 939 306, June 7, 1960. (3820)

PERFORATED, HOLLOW IMMERSION ROLL FOR TREATING FABRIC OR STRAND MATERIALS WITH LIQUIDS. C. P. Walker (to Cocker Mach. & Foundry Co.). USP 2 940 288, June 14, 1960. (3821)

CREASEPROOFING CELLULOSIC FABRICS. C. L. Browne (to Rohm & Haas Co.). USP 2 940 817, June 14, 1960. (3822)

The salt of a poly(vinyloxyalkyl)amine is claimed as a cross-linking agent.

FINISHING TREATMENTS. A. Bennett and D. W. Heywood (to Brit. Industrial Plastics Ltd). USP 2 940 863, June 14, 1960. (3823)

The fixation of hydrophilic colloids for filling, stiffening, and bonding purposes is enhanced and resistance to washing improved by impregnation of the fabric with an aqueous solution containing the colloid and a urea-formaldehyde condensate having a low water tolerance so that it is thrown out of solution into intimate contact with the colloid.

POLYVINYL CHLORIDE RESIN COATED FABRIC. W. A. Corry (to Landers Corp.). USP 2 942 327, June 28, 1960. (3824)

The coating is applied to a woven fabric with differing warp and weft yarns, one is made up of high tensile strength continuous filaments and the other is made up of twisted staple fiber yarns.

APPARATUS FOR STEAMING TRANSFER TYPE KNITTED TUBULAR FABRICS. S. Cohn, J. Cohn, and E. Cohn (to Samcoe Holding Corp.). USP 2 944 317, July 12, 1960. (3825)

BLEACHING COTTON WITH ACTIVATED SODIUM CHLORITE. H. C. Vermijs (to H. P. Gelderman & Zonen NV). USP 2 944 872, July 12, 1960. (3826)

Undue corrosion of the apparatus is prevented by impregnating the fabric with sodium chlorite and treating the fabric in a closed vessel heated with steam in the presence of a volatile reducing agent to neutralize the chlorine dioxide formed.

WATER REPELLENT FINISH. L. H. Groves, J. A. Hall, and J. W. Roberts (to Imp. Chem. Inds. Ltd). USP 2 944 921, July 12, 1960. (3827)

Aqueous compositions consisting essentially of fatty acid methylolamides and an anionic surface active agent are claimed.

Dyeing and printing D2

PRINTING AND DISCHARGE PRINTING PASTES. H. Wirth, A. Blum, E. Pochert, and G. Bernardy (to Badische Anilin und Soda Fabrik AG). BP 829 936, Mar. 9, 1960. Through BCIRA 40: 1912 (1960). (3828)

Pastes containing vat or disperse dyes that are resistant to reducing agents are made up with an amine (e.g. triethanolamine) and a sparingly soluble salt of a hydroxyalkylsulfinic acid.

VACUUM DYEING OF FIBROUS MATERIALS. G. W. Kunsch. BP 830 348, Mar. 16, 1960. Through BCIRA 40: 1909 (1960). (3829)

Dyes are vaporized in a high vacuum.

FLOCK AND PIGMENT PRINTING. Ciba Ltd. BP 830 749, Mar. 16, 1960. Through BCIRA 40: 1913 (1960). (3830)

The following mixture is claimed as binding agent in flock printing and pigment printing and dyeing. (1) A latex of an ethylenic polymer, (2) an aqueous dispersion of an insoluble ether of a formaldehyde/amine resin (e.g. a methylol-melamine ether), and (3) a soluble formaldehyde/amine compound or an ether thereof.

PRODUCTION OF OXIDATION DYEINGS OR PRINTS. Farbenfabriken Bayer AG. BP 830 851, Mar. 23, 1960. Through BCIRA 40: 2125 (1960). (3831)

An azomethine is prepared by the reaction of a primary aromatic amine with a heterocyclic or aromatic aldehyde and applied to the fabric, alone or with an aromatic hydroxy compound. The appropriate oxidizing agent is then applied, with an agent that develops acid, and the fabric is steamed. The azomethine decomposes and regenerates the amine.

PROCESS FOR DYEING POLYAMIDE OR POLYESTER FIBERS. R. F. York and W. C. Favager (to Howards of Ilford Ltd). BP 831 141, Mar. 23, 1960. Through BCIRA 40: 2123 (1960). (3832)

The cyclohexylamides of o-, m-, and p-toluenesulfonic acids are claimed as assistants in the dyeing of fibers of the nylon and Terylene types by the dispersion method.

CELLULOSE DYEING. Badische Anilin und Soda Fabrik AG. BP 831 371, Mar. 30, 1960. Through BCIRA 40: 2326 (1960). (3833)

Fast dyeings and prints on cotton etc. are given by dyes that contain at least once the group -CO·Y·CRR'X, and especially -CO·CH_2Cl and -CO·CH_2·CH_2Cl; Y is a direct, alkylene or phenylene linkage, R and R' are H, alkyl, aralkyl, cycloalkyl or phenyl, and X is a halogen atom.

DYEING OF POLYACRYLONITRILE. Farbenfabriken Bayer AG. BP 832 444, Apr. 13, 1960. Through BCIRA 40: 2328 (1960). (3834)

Polyacrylonitrile fabrics are dyed with basic or disperse dyes in the presence of an amido-amine, X·NH·Y·NRR', e.g. the acetate of 1-stearylamido-3-dimethylaminopropane; X is the residue of a C_{10}-C_{18} carboxylic or sulfonic acid, Y is a straight or branched chain of 2-6 C atoms, and R and R' are alkyl radicals of 1-4 C atoms.

DIAZO DYEING OF MANMADE FIBERS. L. I. Fidell (to Am. Cyanamid Co.). USP 2 938 762, May 31, 1960. (3835)

Diazotization is accomplished by immersing the fabrics in a solution of the diazo base, rinsing, and immersing the fabrics in a second bath containing a water soluble nitrite, acetic acid, and a developer at an elevated temperature. The need for a separate developing bath and for refrigeration of the diazo bath is thus eliminated.

DYEING PROCESS FOR PROTEIN AND MANMADE FIBERS. R. L. Denyer and H. R. Hadfield (to Imp. Chem. Inds. Ltd). USP 2 940 812, June 14, 1960. (3836)

Fast dyeings are achieved by treating the fibers with an aqueous solution of a heterocyclic compound containing a dihalogeno-triazine or pyrimidine group and a dye having a reactive amino group.

HANK CARRIER FOR BULK YARN DYEING. M. Scholl, W. Obermaier, and F. Scharfenberger (to Obermaier & Cie). USP 2 944 318, July 12, 1960. (3837)

WASHFAST DYEINGS ON POLYAMIDE AND MODACRYLIC FIBERS. J. R. Atkinson, G. Booth, E. L. Johnson, and W. P. Mills (to Imp. Chem. Inds. Ltd). USP 2 944 870 and 2 944 871, July 12, 1960. (3838)

Washfast dyeings on polyamide and modacrylic fibers are obtained by the application of aqueous dispersions of water insoluble anthraquinone dyes (2 944 870) and azo dyes (2 944 871) containing alkyl groups substituted by epoxy, chloro, or bromo groups.

Mechanical processes D3

REMOVABLE ROLL MOUNTING FOR CALENDER. K. Zimmerli (to B. F. Perkins & Son, Inc.). USP 2 941 465, June 21, 1960. (3839)

PNEUMATIC APPARATUS FOR TURNING AND STACKING HOSIERY. J. E. Kienel. USP 2 944 709, July 12, 1960. (3840)

PACKING DEVICE FOR PILE FABRICS. S. Schwartz. USP 2 944 751 and 2 944 752, July 12, 1960. (3841)

A rack has crossed arms with longitudinal channels provided with slots in which the fabric can be inserted. The fabric selvage is secured by means of a flexible binding wire threaded through it. Fabric of any length can be wound in a spiral form with the successive layers out of contact with each other.

Drying, setting, conditioning D4

CENTRIFUGAL EXTRACTOR. H. Krantz and W. Krantz (Germany). BP 830 113, Mar. 9, 1960. Through BCIRA 40: 1918 (1960). (3842)

The lid for the basket is carried at one end of an arm that is tiltably mounted by its other end on the casing, and can be locked to the basket by appropriate means. Controlling means, including a counter-force and a latch, between the arm and the basket lid allow the lid to be freed for lifting or locked for rotation with the basket.

RESIN CURING ON MOVING MATERIAL. W. W. Spooner (to Spooner Dryer & Eng. Co. Ltd). BP 830 989, Mar. 23, 1960. (Addition to BP 809 821.) Through BCIRA 40: 2131 (1960). (3843)

The invention relates to apparatus comprising two chambers in the first of which a hot process such as the setting of a synthetic resin is effected, whereas in the second the material is conveyed through a drying zone in which hot air moves slowly in a closed circuit. (See abstr. 2604/59.)

TESTING AND MEASUREMENT E

Fabrics E3

APPARATUS FOR DETERMINING THE SPACING OF REED WIRES OR OF THREADS IN WOVEN OR KNITTED FABRICS. G. A. J. Orchard and B. O. Payne (to Brit. Rayon Research Assoc. and Cooke, Troughton & Simms Ltd). BP 829 690, Mar. 2, 1960. Through BCIRA 40: 1728 (1960). (3844)

It comprises an illuminated graticule, means for projecting an image of the graticule on to the reed or fabric, and means for adjusting the graticule and the projection lens until the spacing of the periodic structure in the image corresponds with that to be measured. The graticule is provided with a scale for direct reading.

MILL MANAGEMENT F

Plant and equipment F2

COUPLING FOR INTERCONNECTING INDIVIDUAL SECTIONS OF COMPOUND ROLLERS, DRUMS, SHAFTS, OF TEXTILE MACHINES. Schiess AG. BP 828 484, Feb. 17, 1960. Through BCIRA 40: 1503 (1960). (3845)

Means for coupling units end to end in such a way that any unit may be moved sideways (for attention or replacement) without disturbing the other units.